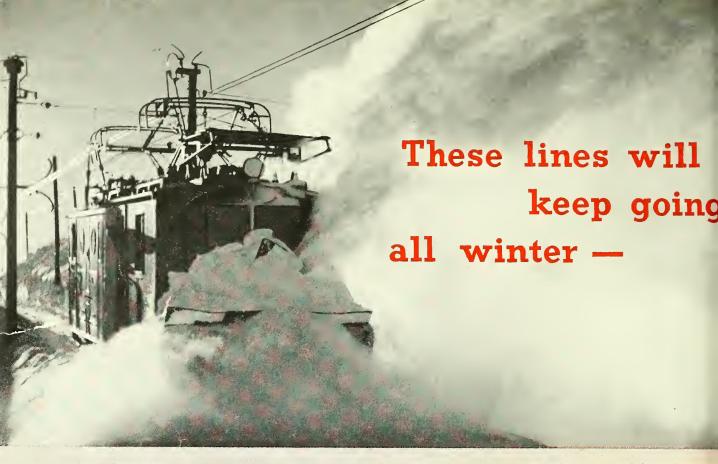
CHEMISTAND DRUGGIST

For Retailer, Wholesaler and Manufacturer

SEPTEMBER 29 1956





Photograph by courtesy of SWISS FEDERAL RAIL

- order your stocks of

PIRIEX

Formerly known as Piriton Expectorant Linctus containing Piriton Maleate.

for expectorant cough therapy

PRESENTATION

	Retail Including Tax	Purchase Tax	Trad eacl
Bottles of 4 fluid ounces	3/11	-/8	2/2
Bottle of 2 litres	54/-	9/-	30/-

ALLEN

for sedative cough therapy

PRESENTATION

Retail

ottles of 4 fluid ounces	3/10½	
ottle of 2 litres	54/-	3
	Exempt Purch	ase Ta



PULMOBAILLY

AUTUMN **BONUS SCHEME** FOR CHEMISTS

SEASONAL DEMAND for Pulmo Bailly Cough Sedative is going to be greater than ever this year when you display the new attractive showcard included in this Autumn Bonus Scheme, introduced to bring you increased sales and bigger profits,

too! Pulmo Bailly is well established with both the public and the medical profession as a reliable family remedy, and sells on sight. Take advantage of this generous scheme with its profitable display terms, and get the double benefit of quicker and better returns at the same time! However, you must act quickly, for this offer is for a limited period only.

SPECIAL PULMO BAILLY DISPLAY TERMS

FOR ALL ORDERS UP TO 20th OCTOBER

12 bottles for 31/-

(instead of 34/-) over 1/3 per bottle

on retail price of 4/8 per bottle (including P.T.) Orders should be sent without delay!

BAILLY LTD., LONDON

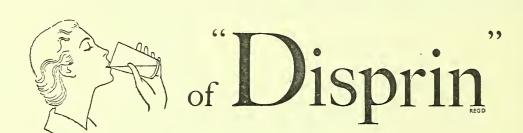
BENGUE & CO., LTD

4/8

Manufacturing Chemists

MOUNT PLEASANT · ALPERTON · WEMBLEY · MIDDX

THE Advantages



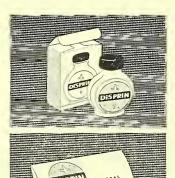
The advantages of Disprin as an analgesic are:—

- 1 Disprin is soluble
- 2 Disprin is substantially neutral

Disprin is therefore quick-acting and far less likely than ordinary aspirin to upset the stomach.

Week after week these advantages are made known to millions of readers of the national daily and national Sunday papers, Woman, Woman's Own, Woman's Weekly, and Woman's Sunday Mirror.

Week after week more people ask for "Disprin" for the relief of headache, colds, neuralgia, sciatica, rheumatism and kindred ailments.



RETAIL PRICES

(incl. P.T.)

50-tablet bottle 3/3

26-tablet bottle 1/112

8-tablet foil 9d.

TRADE PRICES

(excl. P.T.)

50-tablet bottle 23/- doz.

26-tablet bottle 13/10 doz.

8-tablet foil 5/2 doz.

RECKITT & COLMAN LTD. HULL & LONDON (PHARMACEUTICAL DEPT., HULL)

These speciality products are widely advertised in the medical journals

These products are being specially detailed by all our representatives and extensively advertised in the medical journals.

FERLUCON ELIXIR

for all iron-deficiency anaemias.

EACH TEASPOONFUL (3.5 ml.)
CONTAINS

TRADE PRICE

0.3 g. FERROUS GLUCONATE-EVANS

Presented in bottles of 4 fl. oz. 3/8 each

and 2 litres 39/- "

Ferlucon Tablets containing 0.3 g. Ferrous Gluconate-Evans also available.

NOVO LENTE INSULINS

the original Lente Insulins.

24 hour control with one injection for over 90% of all diabetics requiring insulin.

Presented in vials of 10 ml. containing TRADE PRICE NOVO SEMILENTE (I.Z.S. AMORPHOUS) 40 units per ml. 52/6 per doz. 80 units per ml. 99/- ,, ,, NOVO LENTE (I.Z.S.) 40 units per ml. 52/6 ,, ,, 80 units per ml. 99/- ,, ,, NOVO ULTRALENTE (I.Z.S. CRYSTALLINE) 52/6 ,, ,, 40 units per ml. 80 units per ml. 99/- ,, ,,

Novo unmodified (soluble) insulin also available.

NOBECUTANE

the sterile plastic spray-dressing. An effective replacement for conventional dressings.

TRADE PRICE

NOW IN 100 ml.
SPRAY PACK FOR THE
GENERAL PRACTITIONER.

Presented in spray containers of 100 ml. 15/6 each

and 300 ml. 24/- "

Bottles of 50 ml. 7/4 ,,

EVANS MEDICAL SUPPLIES LIMITED

LIVERPOOL LONDON



NEWCASTLE SWANSEA

Agents in Glasgow: The New Apothecaries Co. Ltd.

Change of address:

G.D. SEARLE & CO.,

LIMITED

have pleasure in announcing that they have opened new manufacturing laboratories at:

LANE END ROAD, HIGH WYCOMBE, BUCKS.

Telephone: High Wycombe 1770

The offices are also being moved from London to the High Wycombe address to which all communications should be sent from 1st October, 1956.

A CHANCE TO DO BUSINESS IN AUSTRALIA

Australian principal in London until October 12th representing Australian Company manufacturing some of the best sellers "down under" is anxious to meet parties interested in doing business in Australia and to negotiate for the sale and manufacture on a royalty basis of branded products of merit sold through Chemists or Stores. Financing of manufacture and sales promotion would be for the account of the Australian house.

Please 'phone: Mr. BELLM (Elmbridge 0044)

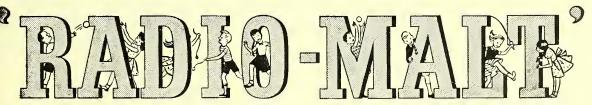
or write:

205 HOOK ROAD, CHESSINGTON, SURREY

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This winter they'll want



- contains vitamins A B₁ B₂ D
- toffee-flavoured—children love it
- sold through chemists only **(b)**

PACKINGS AND PRICES
TRADE RETAI

I lb. jar $2/5\frac{1}{2}$ d 3/62 lb. jar 4/4 6/3

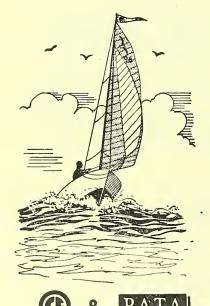
Take advantage of our quantity terms to be published in B.D.H. Information

'RADIO-MALT' for radiant health



THE BRITISH DRUG HOUSES LTD. LONDON N.I

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On the crest... Diuromil

The demand for DIUROMIL is now on the crest of the wave—having the largest and fastest sale of all effervescent salts especially compounded for the relief of—

RHEUMATISM — LUMBAGO — GOUT SCIATICA — FIBROSITIS

- A first-class product of proven therapeutic value.
- ★ Backed by a nation-wide press campaign.
- ★ Approved and recommended by the medical profession.
- * Recommendations by satisfied users.

DISPLAY DIUROMIL

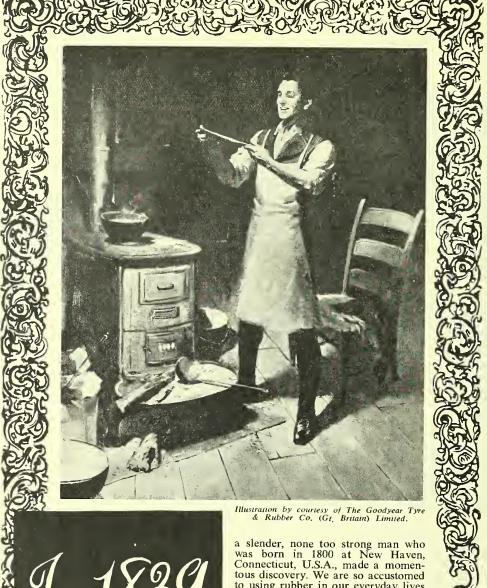
Keep your DIUROMIL sales on the crest of the wave and go with the National tide.

Very attractive display material for window and counter will be sent on request.

PHARMAX LIMITED . GRAVEL HILL . BEXLEYHEATH . KENT

ROUSSEL LABORATORIES

847, Harrow road - LONDON N.W. 10
Telephone : LADBROKE 3608



No. 6 New Series **PRESENTED** BY ARTHUR H. COX & CO. LTD

to using rubber in our everyday lives that little thought is given to the magnitude of Charles Goodyear's accomplishments.

Crude rubber however cunningly compounded is all but useless before vulcanization. Even so, attempts were made to use it in that state for rainproof clothing, shoes and life preservers during Goodyear's early years.

Goodyear realised the form rubber should take and the colossal commercial possibilities for a durable substance indifferent to changes of temperature. He could not stop thinking about it. The vision was constantly before him. His facile fingers were never still—always compounding, mixing and experimenting.

After years of intense disappointments, setbacks, imprisonment for debt and incredible hardships, Goodyear was asked by his wife Clarissa, heartsick over the long sacrifices of her husband, to give up his pursuit of what seemed virtually a mirage. Goodyear in the end yielded, but one day, believed to be 23rd February 1839, during her absence he was again mixing rubber and sulphur when he heard his wife at the door. Not wishing to hurt her anew he threw the mass into the kitchen stove. Looking for it later he found a fundamental change in the structure of the substance itself had taken place. It had been vulcanised. And heat was the last thing anyone had thought of using.

1839 also saw the foundation of Arthur H. Cox & Co, Ltd., the firm which has contributed so much towards the manufacture of tablets and the coating of tablets. Never satisfied with the average achievement in this field it will continue to strive for improvements which can be incorporated in its products for the benefit of all.

ARTHUR H. COX & CO. LTD., BRIGHTON, ENGLAND

One of the world's foremost tablet makers.





8



It's goodbye to shaving drudgery with Lazy Shave!

To be launched OCTOBER 7TH the big Max Factor way!

ON TELEVISION

From all I.T.A. stations, a saturation schedule of Lazy Shave TV advertising starts October 7th. Brilliant, lively, convincing cartoon commercials will appear regularly at peak periods from launching day onwards. The lilting Lazy Shave song, featured in these commercials, will soon top the hit parade of advertising jingles. This is to be Max Factor's biggest, brightest TV advertising effort of all time.

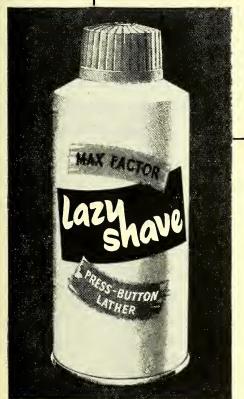
IN THE PRESS

Big space advertising in the National Press will support TV with a hard-selling message to every man who is ready to give up old-fashioned shaving methods... and that means every man! In non-I.T.A. areas an intensive campaign will appear in top-circulation provincial newspapers. No man can miss Lazy Shave advertising!

AT THE POINT-OF-SALE

To clinch sales in *your* store we offer compelling, eye-catching show-cards, window stickers and special Lazy Shave dispensers. Spread them around in your windows, on your counters and cash-in on the boom in Lazy Shave.

And remember . . . Lazy Shave is subject to the same highly favourable discounts as you have always enjoyed in the past with Max Factor cosmetics . . . a unique opportunity for big profits in the important field of men's toiletries.



Lazy

BY MAX FACTOR FOR MEN

Months and months of superb shaving for only

Have Lazy Shave in your windows from October 7th

6'3



Everyone is talking about...



PANADOL—the new Bayer analgesic which contains no aspirin, phenacetin or codeine. Panadol relieves pain without causing side-effects such as gastric irritation or constipation, and is fast becoming established as a safe, effective analgesic for headaches, rheumatic and arthritic pain, colds and 'flu.



Panadol is not a scheduled poison, and may be bought from chemists without a prescription.



Trade Mark

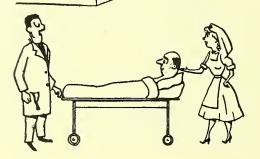
Tablets, 0.5g. N-acetyl-p-aminophenol, in cartons of 20, bottles of 100 and 500.

Retail price of 20 tablets: 3/11 (trade 26/3 per doz.)



BAYER PRODUCTS LIMITED

Neville House, Kingston-on-Thames, Surrey Export enquiries to: WINTHROP PRODUCTS LTD









OFFICE & WORKS: MANSFIELD ROAD, DERBY. Tel: 40671 (8 lines) BRANCH WAREHOUSE: GROSVENOR ST., ASHTON under LYNE. Tel: 2816 (3 lines)

LIPOSTABIL

CAPSULES

for the prevention and treatment of Circulatory disorders Now available in this country

packed in bottles of 100 Capsules Retail price 20/- per bottle

Obtainable only through Sole distributors for the United Kingdom and Commonwealth:

JOHN RONALDSON & CO. LIMITED

3/4 Crooked Lane, LONDON, E.C.4. Telephone: Mansion House 1321 & 6806

M.C.P. PURE DRUGS LTD.

THIS new company has been formed so as to make available to the Medical Profession the results of the valuable research that has been carried on over a number of years by Mining & Chemical Products Limited. The manufacture of Bislumina formerly carried on by the latter company will now be under the control of the new company which will maintain close contact with the practising doctor and carry out the distribution of its own products.

This change will be effective from October 1st., but supplies will still be available through Messrs. C. J. Hewlett & Son Limited who were formerly sole distributors.

M.C.P. PURE DRUGS LTD · 86 STRAND · LONDON · WC2



Sub-lingual

TABLETS

Each tablet contains 0.25 mg. Pure Gramicidin, an antibiotic of microbial origin. It is a cyclic polypeptide containing various amino-acids (Glycine-Alanine-Valine-Leucine-Tryptophane) and Ethanolamine.

POSOLOGY 5 to 10 tablets daily, to be dissolved slowly in the mouth.

Indications: Treatment and prophylaxis of rhino-pharyngeal, laryngeal, buccal and dental affections. Also in treatment of bronchitis.



PLEASANT

PACKING: Tin of 25 tablets

YOUR PRICE: 31/6 per dozen

RETAILING AT: 3/6 per tin

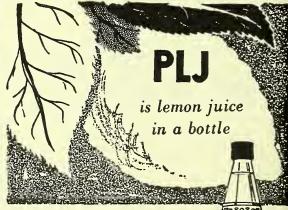


BENGUE & CO. LTD.

Manufactu ing Chemists

ALPERTON

WEMBLEY



The natural, undiluted, very pleasant juice of fullripened Sicilian lemons. Many thousands of women are now drinking PLJ regularly for the sake of their health and figure. Once in the home, they use it for many other purposes. To make real lemonade. To dress salads. To rinse hair. And so on. The lemon is a versatile fruit—and anything a lemon can do PLJ can do better!

At 2/6 a bottle (4/- for the economy size) PLJ is a good purchase. That's why sales are soaring.



PLI CROYDON



Smiler introduces a new friend

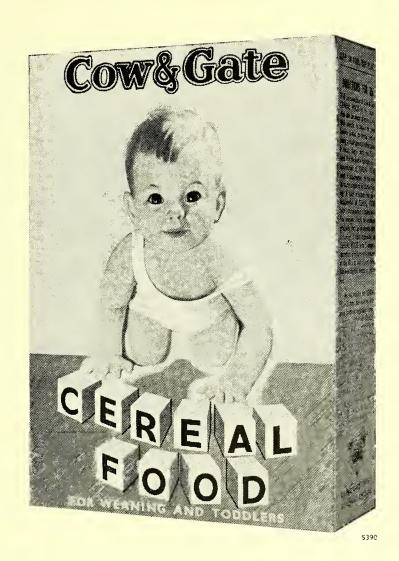
and to make sure that all your customers know about this new product—Cow & Gate CEREAL FOOD—large spaces have been booked in the magazine press with national coverage, including Woman, Woman's Own, Radio Times, Mother, Woman's Weekly, Nursery World, etc., beginning November, 1956.

During the initial launching of this campaign a bonus of 1/2d. for every dozen cartons ordered during October and November is offered, so place your orders now and be prepared for the rush!

Cow & Gate CEREAL FOOD is packed in full colour 8-oz. cartons, I dozen to the outer, trade price 14/5d. per dozen (or 13/3d. per dozen during above bonus period), and will retail at I/6d.

Carriage Paid on 2-dozen and over.

Please address your enquiries and requests for promotion matter to:—



COW & GATE LTD., Guildford, Surrey.

MOTHER LIKES THE POWDER-BABY LIKES THE TIN

Southalls PROUDLY PRESENT...

their new-formula
baby powder,
in its fascinating
'nursery' container





Made for hygiene, Southalls Baby Powder is a perfect combination of super-fineness, purity and delicate fragrance. The new tin is easy to handle, — with no sharp edges or corners and fitted with a plastic captive top—and the sides are decorated with adorable Nursery Animals, appealing to Mother and Baby alike.

Stock up with Southalls Baby Powder *now*—to tie-in with the striking Press Advertisements which will be appearing in widely-read Women's and Nursery Magazines.



INTRODUCTORY BONUS OFFER!

A bonus of 4d. per dozen tins, irrespective of quantity, will be given on all orders booked up to and including 31st December, 1956.

Order through your usual wholesaler today.

Retail Price—1/10d. per tin. Trade Price—12/6d. per doz. tins

(plus P.T. (30%) at 3/9d. per doz. tins).

SOUTHALLS (BIRMINGHAM) LTD., Charford Mills, Saltley, Birmingham 8.

The SMALL vitamin capsule

with the BIG profit

SELLS AT 5/- PER TIN OF 100 CAPSULES, SHOWING YOU 33\frac{1}{3}\% PROFIT (or 50\% on cost). Here is the concentrated vitamin content of each SEA-PEARL CAPSULE—

TAKE CAPSULES

0

0

0

TAKE ONE

VITAMIN A 4500 I.U. VITAMIN D 450 I.U.

You can sell it easily because children particularly can take it easily. It's the new Norwegian fish liver oil capsule—SEA PEARLS—in the metal dispenser pack that releases one tiny capsule at a time—and only one daily is needed!

This is the best proposition in high quality fish liver oil capsules you can handle. 24 tins are packed in a counter display box with 50 individual sample capsules in separate compartment.

SEA PEARLS

The mighty mite in @ balanced fish oil capsules

Enquiries to sole distributors for United Kingdom: Mayborn Products Limited Pharmaceutical Division Dylon Works, Sydenham, London, S.E.26





Order direct from us but may be invoiced through your usual wholesaler.



You may order any number of parcels during the period.

ORDER NOW

WILLIAM R. WARNER & CO. LTD.

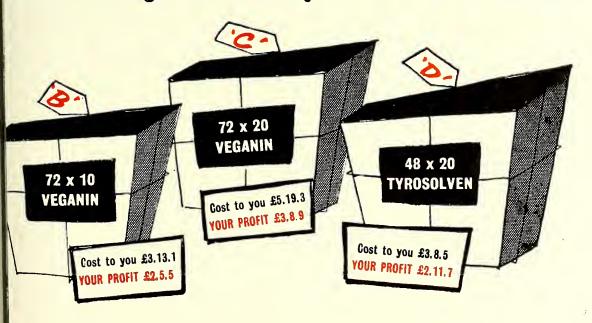
Bonus Offer

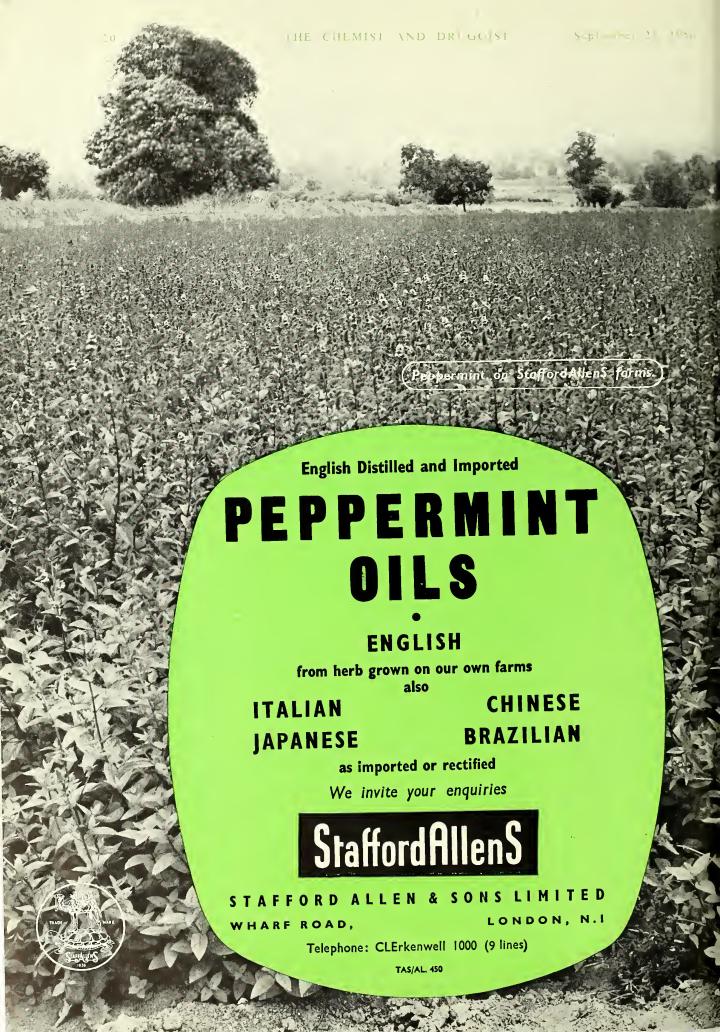
EXTRA 5% + 10% DISCOUNT ON

VEGANIN

TYROSOLVEN

ake advantage immediately of this extra discount





NEW! "plus protection" wrapping



NEW! Improved shelf appeal

Scott's Twin-Pack is now triple wrapped. Already protected by the waxed paper inner envelopes and outer carton, it is now sealed with hygienic transparent outer wrapping. In this new gleaming outer, Scott's Twin-Pack will have even greater appeal to mothers.

12 for the price of 11

DURING OCTOBER ONLY

The peak demand for 'Gammexane' Louse Powder is during late Autumn and Winter. This Bonus Offer is made to encourage you to stock up in good time—but orders must be posted by 31st October.

'Gammexane' Louse Powder is the most efficient of its type. It contains gamma b.h.c., an insecticide of great potency, particularly deadly to lice. Specially formulated to meet the needs of stockfarmers, amongst whom it is a great favourite, it is made up in large sprinkler drums with strong, sensible handles. As one might expect, it also enjoys a ready sale as a general domestic insecticide.

OUTLAY IN TINS

II tins @ 4/4d. = 47/8d.

RETURN

12 tins @ 6/6d. = 78/-

YOUR PROFIT

30/4d.

'Gammexane'.

LOUSE POWDER

TRADE MA

A Product of Imperial Chemical Industries Limited. Distributed by

IMPERIAL CHEMICAL (PHARMACEUTICALS) LIMITED, WILMSLOW, CHESHIRE Ph.672



In two years Becantyl has become an established treatment for useless cough—

especially with children and old people No side-effects

Unrelated to morphine derivatives or guaiacol and with none of their disadvantages, Becantyl suppresses useless cough. The active ingredient in Becantyl is Sodium-2:6- ditertiary butylnaphthalene monosulphonate. This chemical, which does not cause constipation, anorexia, drowsiness or other side-effects, is the result of original research.

These characteristics make Becantyl especially valuable for the treatment of useless cough in children and old people.

Becantyl is available in 4 fluid ounce bottles, and also in 40 fluid ounce and 80 fluid ounce dispensing bottles.

PACK	TRADE PRICE	Retail Price including purchase tax
4 fl. oz.	28/- + 8/2d P.T. (per doz.)	4/2d each
40 fl. oz.	20/- + 5/10d P.T. (each)	35/10d each
80 fl. oz.	36/8d + 10/9d P.T. (each)	65/9d each

Becantyl has no B.P. or N.F. equivalent, is not advertised to the public, and may be prescribed on form E.C.10.

BECANTYL



Horlicks Limited
Pharmaceutical Division
Slough Bucks

in the application of COUNTER IRRITANTS

RADIAN-B is a spiritbased liniment incorporating the following active principles:

> Acid Acetylsalicylic Methyl Salicylate Menthol Camphor

RADIAN - B

is indicated in the treatment of rheumatic conditions especially when symptomatic pain is acute.

RADIAN-B has a refreshing smell, does not stain and is available in large retail sizes,

4 oz. bottle, 4/1 and family size 8 oz. 6/10.

RADIOL CHEMICALS LTD.

78 Upper Richmond Road, London, S.W.I5

Telephone: VANdyke 1642 & 2692



Don't turn your back

YOUR customers will appreciate the soft quality and reassurance of Oliver's Sani-Knicks. Made in locknit and net material with rubber protection, in brief and knicker styles,

they are available in white or peach. Small, medium or large sizes. You cannot afford to turn your back on this line.

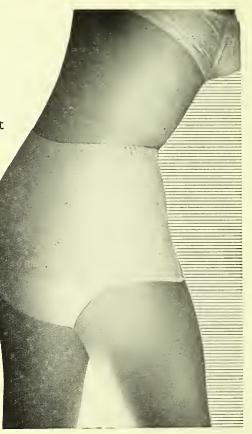


Oh! for OLIVER'S

Soft Safety Sani-Knicks

Available through your wholesaler or for Export.

Wm. OLIVER'S (Rubber) LTD.
BLACKHORSE LANE, LONDON, E.17
Telephone: Larkswood 8811





MEDICINAL NORIT

Holland's great remedy for stomach disorders. This famous Dutch preparation of pure activated Charcoal

IN TABLET FORM

is now available in Great Britain.

Supplied in Display Boxes of 12 Tubes each containing 25 Tablets.

RETAIL PRICE 2/6 PER TUBE

Advertising has begun in the West Riding area and will continue in others.

Order from your usual wholesaler or-

MACWILL & COMPANY LIMITED 7 WEST ROAD, KINGSTON-ON-THAMES

Telephone: MALDEN 8558

Why are so many people drinking

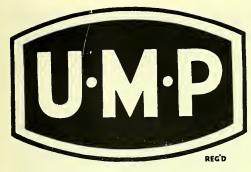
ROSE'S DIABETIC ORANGE SOUASH?

Rose's originally produced their Diabetic Orange Squash expressly for diabetics, but the demand for it has gone far beyond this particular field. Sales are climbing rapidly, because people are fast discovering that Rose's Diabetic Orange Squash is free from added sugar, and is a delicious aid to healthy slimness.

Ensure that your stocks are sufficient to meet the growing demand for Rose's DIABETIC fruit drinks—now backed by an interesting new advertising campaign in the Diabetic Journal and other medical publications.

ROSE'S ALSO PRODUCE LEMDN SQUASH AND Lime Juice as well as Sugar-Free Marmalade in their diabetic range





For Jubes

If it's

UNIVERSAL SERVICE you require, why not and Plastics telephone Pendleton



NCS. Telephone: PENDLETON 444-LE HOUSE, 29/31.EUSTON ROAD.N.W.I.TEL.TERMINUS 2073



SPECIAL OFFER

Holland Inside Roller Blinds for Shop Doors, complete with Brackets, Pull-down Tab, Eyelct, and Twist-stud for holding down. Colours, Dark Green, Dark Blue-green, Navy, Ecru, Jade, Sizes up to 2 ft, 6 in, wide and 4 ft, 0 in, drop 27/- inc, Tax and Postage, 2 ft, 6½ in, to 3 ft, 0 in, wide and up to 5 ft, 6 in, drop, in Dark Green, Dark Blue-green and Navy only, on auto-matic spring roller, inc. Tax and Postage, 29/6 (normally 41/-), Send exact width (incl. brackets) and drop, Delivered only on receipt of cash.

Dept. "C.D.1." J. AVERY & CO., (Est. 1834) LTD. 81, Gt. Portland Street.

LONDON, W.1.

While stocks last, due to a special purchase, very low quotations for inside shop window blinds in Dark Green Holland.
Also, of course, Shop Blinds, Re-covers and Canopies.

ESTABLISHED 1793

The Infants' Medicine of 150 years' standing

For teething and digestive troubles

ROBERT BARKER

13 ALISTAIR STREET, MANCHESTER, 1

WHAT DO YOU KNOW

THE NEW 1956 EDITION OF "THE BUSINESS ENCYCLOPÆDIA AND

FREE INFORMATION to help you with all your BUSINESS PROBLEMS

Edited by THOS, H. LEWIS, M.B.E., assisted by over 50 expert contributors

Over 200,000 owners of the previous editions of this famous book found it an invaluable adviser on their business problems. This new edition has even greater scope and coverage. NO ONE INTERESTED IN BUSINESS SHOULD BE WITHOUT IT.

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in a companion volume deals with correspondence between Business Houses;
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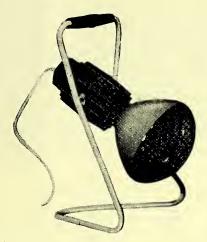
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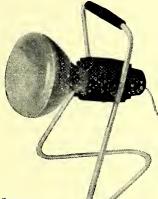
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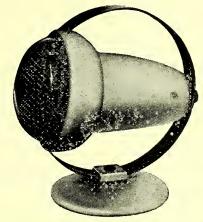


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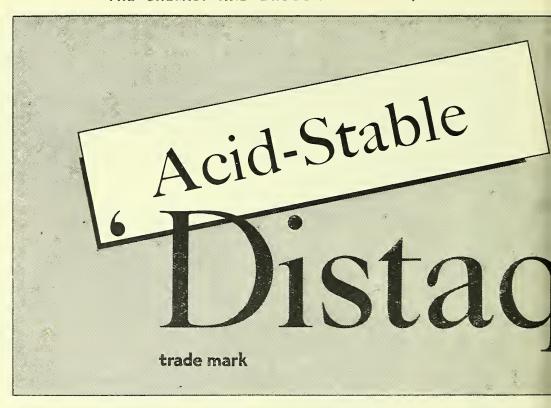


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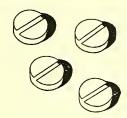
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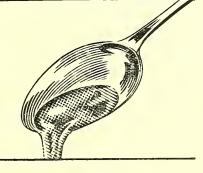
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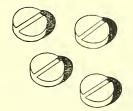
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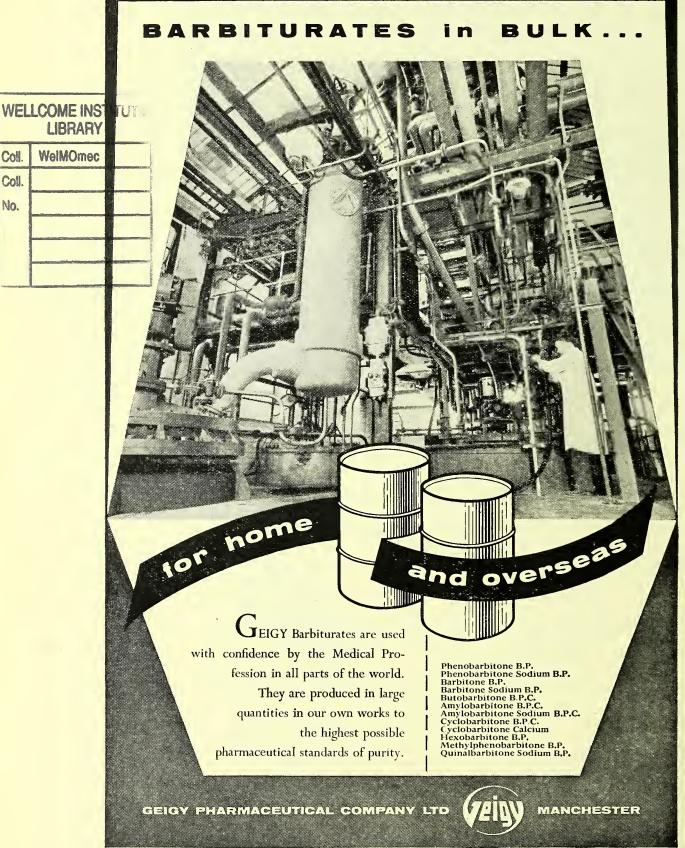
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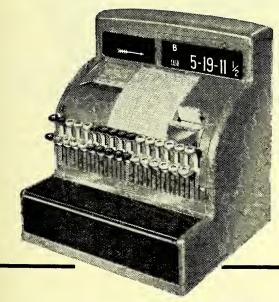
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Official organ of the Pharmaceutical Society of Ireland and the Pharmaceutical Society of Northern Ireland

Volume 166

September 29, 1956

No. 3997

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Volume 166

SEPTEMBER 29, 1956

No. 3997

N.H.S. Testing Scheme

CALL FOR AMENDMENT

A CALL for substantial amendment of the National Health Service scheme for the testing of drugs and appliances is contained in a motion to be put before the annual meeting of the Executive Councils Association (England) in London on October 18 and 19.

The motion draws attention to the fact that there is no provision made for testing the dispensing of contractors in the pharmaceutical service other than chemists; the use of prescriptions based on the National Formulary, the British Pharmacopeia or the British Pharmaceutical Codex has progressively diminished during the past few years; because of the analysis fee payable and the difficulties involved in comprehensive analysis, quantitative reports on many ingredients are not supplied, the analyst being content to indicate their presence or otherwise, although some of those ingredients are of considerable therapeutic value in the correct quantity. The management committee of the Association is therefore asked to give immediate consideration to the scheme with a view to making recommendations to the Ministry of Health for its amendment.

Prescribing Costs

WHAT DOCTORS WILL BE TOLD

UNDER the new scheme for providing doctors in certain areas with details of their prescribing costs during the month (see C. & D., September 1, p. 207) the information given to each doctor concerned will be the total number of his prescriptions; total cost; number of prescriptions per person on prescribing list; cost per prescription; and cost per person on prescribing list, Alongside the last three items there will also be shown comparative figures for the doctor's area and for England as a whole.

Prescribers' Notes

CONTENTS OF SEPTEMBER ISSUE

THE contents of the September issue of *Prescribers' Notes*, issued to doctors by the Ministry of Health and the Department of Health for Scotland, include a warning against the prescribing of erythromycin for most chronic conditions, trivial indications and where the bacterial cause is not known, Prescribers are asked to avoid the use of the words "original pack" or "small size" and to order the quantity considered necessary. Two pages are devoted to an outline of the use of phenoxymethyl penicillin. Doctors are reminded that all prescriptions for insulin

preparations should specify the strength required. It is explained that it is a pharmacist's du'y to supply water for injection when "inj. penicil." or "inj. streptomyc." is prescribed, but not when "penicillin" or "streptomycin" alone is prescribed. Doubt is cast on the value of cortisone in treatment of rheumatoid arthritis. A plea is made to recently qualified doctors to get to know the National Formulary. A table is given showing the cost of twenty tablets of various content. Another table shows the rise in the proportion of proprietary preparations prescribed.

Shop Valuations

CUT DEMANDED

THE Minister of Housing and Local Government has been asked to reduce the valuations of shops and other commercial premises by a uniform 25 per cent. from April 1, 1957. The proposal has been made in a letter to the Minister from the secretary of the National Chamber of Trade, writing on behalf of a committee representing a number

of retail trade organisations on the matter of rating revaluation, The letter points out that retailers will not be satisfied that they have been fairly treated unless there is a common basis of valuation for all classes of hereditaments at the earliest practicable date. They are confident that the examination of the effects of revaluation on shopkeepers and other commercial occupiers, taken with the review of industrial derating, will justify the Minister in proposing legislation with the ultimate aim of a common basis of valuation which will substantially reduce the burden on shopkeepers before the quinquennial revaluation of 1961. They are, however, alarmed at the possibility that any such legislation would not be enacted in time to ameliorate the position of shop-keepers in the year beginning April 1, 1957. The letter requests reassurance on that point, but proposes, should early legislation prove impossible, that as an interim measure the valuation of shops and other commercial premises should be reduced from April 1, 1957, by a uniform 25 per cent. That, states the letter, would have the effect that shopkeepers in general would bear roughly the same proportion of the total burden of local rates as they did in 1955. The letter concludes by saying that the "inequitable shift in the burden of rates, brought about by the present legislation, has created a position of the greatest urgency for shopkeepers of all kinds, both large and small, and much feeling is liable to be aroused if prompt action is not taken to avoid



HOSPITAL PHARMACISTS AT HUNSDON: A party of pharmacists from London hospitals were conducted round the laboratories of Smith & Nephew Research, Ltd., Hunsdon, Herts, on September 20, after Mr. D. E. Seymour (managing director of the company) had explained their organisation and scope, The visitors were shown the biological, chemical and technological, pharmaceutical and analytical laboratories, library and workshops, and were afterwards entertained to lunch.

the continuance of that excessive bur-

den for a further year."

In his reply, the Minister states that he appreciates the importance of those matters to the retail distributive trades; and that there will be no avoidable

Film about Cortisone

B.M.A. CRITICISMS

A FILM about cortisone entitled "Bigger than Life" that started its run in London on September 20, has been criticised by the British Medical Association. In a statement on September 19, the Association said that doctors who extraded a president of the file. tors who attended a preview of the film thought that it gave "an inaccurate" and "dangerous presentation" of the action of cortisone. The film portrayed a patient who became a cortisone addict, with the gradual onset of a dangerous psychosis. It was not difficult to foresee the anxiety and distress which might be caused to patients who had been prescribed cortisone, and to their relations. Cortisone was not a drug of addiction; nor, when administered under medical control, did it lead to psychosis. The doctors who saw the film thought that the public should be reassured that, though cortisone was a powerful drug, it was perfectly safe and reliable for use in certain conditions and under strict medical control. tions and under strict medical control. The producers of the film, Twentieth-Century Fox Film Co., Ltd., point out that the film gives one of the circumstances under which cortisone should not be administered. The film makes it clear that the man acts against his doctor's advise and warming he takes as tor's advice and warning—he takes an overdose to achieve the effects which he had on first taking the drug. The film itself is based on a case-history with complete documentation. Cortisone is, says the company, not presented as a drug of addiction in the film. The situation is that cortisone is an extremely dangerous drug, and the man is warned that, if he feels any side-effects, he should tell his doctor.

Evening Lectures

COURSES AT WOOLWICH POLYTECHNIC

THE following are among courses of Special evening lectures being held at Woolwich Polytechnic, Thomas Street, London, S.E.18, during the autumn term.

APPLICATIONS OF INFRA-RED SPECTRO-SCOPY: Six lectures by R. L. Williams, M.A., D.Phil. (Oxon), at 7.15 p.m., on Tuesdays, commencing October 23. Fee, 10s.

PESTS OF FOODSTUFFS AND STORED PRODUCTS: Twelve lectures by C. S. Wood-Baker, M.Sc., Ph.D., F.Z.S., F.R.E.S., at 6.30 p.m., on Mondays, commencing October 8. Fee, £1.

PUNCHED CARDS IN OFFICE AND FAC-TORY: Eight lectures by L. R. Crawley TORY: Eight lectures by E. R. Classey, at 7 p.m., on Wednesdays, commencing October 10. Fee, £1.

ORGANISATION AND METHODS IN THE

MODERN OFFICE: Eight lectures by H. W. S. Mead, at 7 p.m., on Fridays, commencing October 12. Fee, £1.

PRINCIPLES OF INDUSTRIAL LAW: Twenty-four lectures by R. W. L. Howells, LL.M., at 7 p.m., on Fridays, commencing October 8. Fee, £2.

Chemical Engineering

EUROPEAN CONVENTION, 1958

A EUROPEAN Convention of Chemical Engineering is being held at Frankfurt on Main, Germany, May 31-June 8, 1958, in connection with the Achema 1958 chemical apparatus and equipment congress and exhibition. The twenty-three European technical and scientific societies which together form the European Federation of Chemical Engineering are also holding their second congress within the framework of the European Convention of Chemical Engineering. That congress is opening in Brussels, May 28–30, 1958, and is continuing in Frankfurt on Main, May 31–June 8, 1958. The European Federation of Corrosion, to which some fortyfive European technical and scientific societies belong, is also planning to hold its second congress in Frankfurt on Main. The Gesellschaft Deutscher Chemiker (Society of German Chemists) is holding a special meeting and the Dechema (Deutsche Gesellschaft für chemisches Apparatewesen E.V.) is holding its thirty-third annual meeting during the course of the European Convention of Chemical Engineering. The Dechema is also conducting an "International Achema Students' Meeting," to which all advanced students of chemistry, physics and engineering as applied chemical apparatus and equipment and process engineering are being invited. Thirteen large exhibition halls having a total floor space of 66,000 sq. metres are at the disposal of the Achema 1958 chemical apparatus and equipment congress and exhibition.

Glasgow's Royal College

NEW DESIGNATION

THE Royal Technical College, Glasgow, has been renamed the Royal College of Science and Technology, Glasgow. Announcing the change, the governors said that it had been made to bring the name into harmony with the status of the college as one of the leading institutions in Britain in the field of applied science. The work of the college was now entirely devoted to advanced study and research in science and technology, and it was selected by the Government some time ago as one of the centres for further special development.

Commercial Television

CELEBRATION OF FIRST ANNIVERSARY

COMMERCIAL television in Britain celebrated its first anniversary on September 23. At a meeting held by the Incorporated Society of British Advertisers on September 21 to discuss television advertising, Mr. E. Rowan Bentall (deputy managing director, Bentalls, Ltd.), said that with the right merchandren. dise, supported by the right story and proper promotion, television advertising "must have successful effects." Mr. A. Aldington (chairman, National Pharmaceutical Union Executive) also thought that the medium could sell goods, but he said that he had noticed that a rapid build-up of sales could be, and was frequently, followed by a rapid

Party Conference

MOTIONS ON AGENDA

A NUMBER of motions critical of the recent rating revaluation as it affected trade and business premises and calling for remedial action by the Government are contained in the agenda of the annual conference of Conservative and Unionist Associations' meeting at Llandudno, October 11-13. Among a series of motions from which five will be selected by ballot are two urging the Government to enable patients to obtain drugs and appliances on EC10

New Pharmacy Inspector

· NORTH OF ENGLAND TERRITORY

THE Pharmaceutical Society has appointed Mr. Stanley Booth, B.Sc. (Pharm), F.P.S., an inspector in succession to Mr. J. Shields, who has retired. After a period of training, Mr. Booth is taking over a territory in the north of England.

IRISH NEWS

Northern Price List

CHANGED FEATURES

THE Ulster Chemists' Association 1956-58 price list has been sent direct to members by the printers. Attention is drawn to the following features: Crude drugs are listed on p. 221 at the end of the drug section; a list of condiments has been included at the condiments has been included at the end of the drug section (p. 221) (prices in that list are based on the cost of "condiment" quality); the colour of the drug section has been changed to buff, and the dispensing schedule has been printed in buff and immediately preceded the drug section; the product precedes the drug section; the products of Burroughs Wellcome & Co, are now listed in alphabetical position in the proprietary section (pp. 49–56).

Ulster Chemists

REVISION OF BELFAST ROTA

AT a meeting of the executive committee of the Ulster Chemists' Association held in Belfast on September 11, a subcommittee of the city members of the committee was elected to act in con-junction with the Local Pharmaceutical Committee in revising the Belfast rota service for submission to the Northern Ireland General Health Services Board. The following were elected to membership: Messrs, James Lord, Ltd., 502 Antrim Road, Belfast (successors to S. Hutchinson, Ltd.); and a number of employees whose applications had been approved by the Associates' Committee were elected to associateship.

Northern Council

AN ELECTION CANDIDATE WITHDRAWS

MR. Malachy Charles Mooney has withdrawn from the Pharmaceutical Society of Northern Ireland Council election (see C. & D., September 22, p. 310). His withdrawal leaves seventiated and identification of the transportation of the second district for the transportation. teen candidates for the ten available seats. Votes are to be lodged before noon on October 1.

NEWS IN BRIEF

A TWO-DAY sales staff conference was held by Genatosan, Ltd., Loughborough, Leics, on September 10 and 11.

MIDDLESEX Pharmaceutical Committee is removing to 6 Southampton Place, London, W.C.1, on October 1. Telephone: Chancery 8512.

THE shop frontage of the pharmacy of Mr. W. Buchanan, M.P.S., 41 Graham Street, Airdrie, Lanarks, was damaged by fire on September 3.

In the twentieth smash and grab in five years at Stratton Pharmacies, Ltd., 322 Ashton New Road, Bradford, Manchester, 11, an electric hair-dryer has been stolen.

THE latest issue of Colonial Plant and Animal Products (Vol. V, No. 3, 1955), contains six pages of tables setting out the exports of essential oils from the British colonies and Commonwealth countries for the years 1951-54.

A FORTNIGHT'S exhibition entitled "The Camera Looks at Richmond" is being staged in Richmond, Surrey, town hall, by Richmond and Twickenham Photographic Society, September 30 to October 13 (10 a.m. to 10 p.m. daily; admission free).

THE 15 per cent, surcharge on shipping freight rates between Europe and the Far East has been suspended as from the date of its introduction on September 18, although a warning is given that it may have to be reimposed without forward notice.

More than thirty members of the South-east London Chemists' Association on their summer outing visited Lullingstone Castle and silk-worm farm, near Eynsford, Kent, on September 20. Afterwards the party proceeded to Godden Green for dinner.

SIR Alexander Fleck (chairman, Imperial Chemical Industries, Ltd.), is delivering the Messel memorial lecture of the Society of Chemical Industry at the Royal Institution, on October 12. His subject will be "The Chemical Industry: Some Achievements, Some Problems."

SPORT

Golf.—London Chemists' Golfing Society, at South Herts golf club, on September 19. Mentholatum prize, H. E. James (6), 71; R. J. Reuter Co., Ltd., 4711 prize, B. F. Tisdall (10), all square on bogey; Professor Flint cup, F. de C. Durant (12), 75; metal, G. T. Morson (9), 74. Ulster Chemists' Golfing Association, cap-

ULSTER CHEMISTS' GOLFING ASSOCIATION, captain's day competition, at Shandon Park golf club, on September 19. Captain's prize, 1, G. Taggart, 70; 2, T. McCann, 73. Best gross, B. Flatley. Visitors' prize, 1, M. J. Waddell, 70; 2, J. Fisher, 72. Mr. J. Kennedy has been elected captain for 1957.

BIRMINGHAM. PHARMACEUTICAL ASSOCIATION.

BIRMINGHAM PHARMACEUTICAL ASSOCIATION GOLF SECTION announces the following trophy winners for the season: Andrews salver, W. O. Payne, 68; Burgoyne cup, B. C. H. Wilson, 70; Coty cup, E. W. Bramall, 70; Cuxson bowl, W. E. Deakin, 70; Southall cup, A. S. Harris, 75; Alco cup, E. W. Bramall, 75; Ucal cup, R. D. Tuck, 72; W. O. Payne's prize, H. Spiers, 75; Potter & Moore cup, J. Rankin, 73; Chairman's prize, R. G. Gibbs and H. Spiers, 69; Captain's prize, E. E. Jones and E. W. Bramall, 71. The section retained the B.D.H. cup in the match against Manchester with a margin of thirteen strokes, and the Li-lo cup for the best individual score (K. R. Fox, 71).

TOPICAL REFLECTIONS

By Xrayser

New Specialities and Records

Mr. H. W. Tomski's paper to the Conference at Dublin (p. 333) was a comprehensive and detailed document which underlined the complexity of the times in which we live. There have been striking advances in the science of medicine, and all will agree that the progress made has been spectacular. It is unfortunately true, however, that not all new preparations are necessarily new treatments or new drugs. Many of them are merely "variations on an original theme" and, as such, they are not warmly welcomed by the pharmacist; nor are they regarded with the reverence that is accorded a new discovery in original research. Helpful as were Mr. Tomski's hints on the gathering of information, it must be wondered if the time devoted to "keeping in step" is always time well spent. In the deluge of literature arriving daily, one cannot be expected to be so clairvoyant as to spot the winners, and many of the products are never heard of again. A quick and reliable reference is desirable, but systems must be as simple as possible. I have myself experienced difficulty in reading prescriptions for new remedies—badly written, devoid of any instruction, and minus the name of the manufacturer, so that an alphabetical list of names was the only hope. Only this week one such made its appearance. It bore a name that could have been one of half a dozen different preparations, and no system could have overcome the problem presented. Fortunately the prescriber, after long reflection, recollected the product. A little more thought and a little more care on the part of the prescriber would save much valuable time. It used to be said that the pharmacist prided himself on his ability to decipher bad handwriting, sometimes after great effort. Today, the most time-devouring pursuit is the tracking down of an obscure proprietary medicine. In both instances the physician is not above reproach.

Dublin

The meeting of the Council of the Pharmaceutical Society of Ireland, held on September 11, was an occasion for appreciation, and one might almost say of thanksgiving. To see the work of many months of planning and dedication to the task come to a triumphant conclusion gives cause for great satisfaction. The running of a conference makes heavy demands on time, and only those who have taken some small part in the organisation have an appreciation of the labours involved. Each centre presents its own particular problems, and these can only be tackled on the spot as they arise. Consequently, it speaks volumes for the organisation and control at Dublin that guests to the number of one thousand did not cause any evident embarrassment. Our friends in Ireland have reason to be more than satisfied, but with the sense of satisfaction there will be mingled a feeling of relief that it is all over, and a curious sensation of flatness after great excitement and exhilaration. Incidentally, I thought your Daily Bulletins contributed materially to the success of the Conference and your souvenir menu cards (a graceful tribute in colour and literary content to our Irish hosts) to the enjoyment of the banquet.

The Way to Health

Alarmed at the expenditure on the drug bill in New Zealand, the Health Department, it is reported (p. 311), has embarked on a programme of advertising designed to cut the cost. Much excellent advice is offered, such as the taking of exercise and the observance of regular hours; a balanced diet instead of vitamin pills; pasteurised milk instead of calcium tablets, and an admonition to cultivate regular habits and partake of sunshine and fresh air. No one would find fault with the advice offered, but modern life does not lend itself to the adoption of the precepts outlined. Shop, office and factory reduce the opportunities for the two last-named, and nature has still further limited the scope in Britain this year. And much as we may deplore lack of exercise and late hours, I am afraid it will take more than a Press campaign to alter our ways. We are creatures of habit even though that habit happens to be bad for us.

PHARMACEUTICAL SOCIETY OF IRELAND

Council election candidates







Mr. P. F. McGrath







Mr. M. Power

THIS year's Pharmaceutical Society of Ireland Council election promises to be of more than usual interest, with twelve candidates for seven seats. Two of the new candidates are women. Of the seven outgoing members (who all offer themselves for re-election) five came on the Council in 1944: Messrs, Fullam, McGrath, O'Neill, McKane and Power, Mr. O'Shea has been on the Council eight years and Mr. Kennelly four years. In their address to the voters, the seven outgoing members review the major events which took place during their past term of office and state that "the Council has had to face issues of a magnitude never before experienced in Irish pharmacy. Equally important decisions will have to be taken in the near future and we believe that an experienced team is best fitted to cope with the problems which will arise."

Voting papers must be received by the registrar, Pharmaceutical Society of Ireland, by first post on October 1.

Outgoing Members

MR. PETER FULLAM is a retail pharmacist from Naas and is secretary of the co. Kildare Chemists' Association. He has shown a deep interest in pharmacy legislation and in problems affecting the veterinary chemist.

MR. DONAL J. KENNELLY is a retail pharmacist from Dalkey, co. Dublin, who has been an active member of all committees during the past four years and the Council's representative on the post-graduate lectures committee. was secretary of the 1956 British Pharmaceutical Conference organising committee and discharged his duties with marked ability.

MR. FRANK McGRATH (president, Pharmaceutical Society of Ireland), is pharmacy's representative on National Health Council and was chairman of the organising committee of the 1956 British Pharmaceutical Conference. He is one of the best-known pharmacists in the country, a past-president of the Irish Drug Association and, while actively interested in every phase of pharmacy, he has made a special study of the Health Act, 1953, and its Regulations.

MR. N. A. McKANE is a prominent member of the West of Ireland Chemists' Association and its spokesman at Council meetings. He is noted as a fluent and forceful speaker.

MR. GERALD O'NEILL is also a co. Dublin chemist and has a pharmacy at Blackrock. He is a diligent worker on all the Society's committees and is a past-president of the Irish Drug Association

MR. C. D. O'SHEA is a member of the Cork Guild of Pharmacy and a tireless worker for pharmacy. Mr. O'Shea is a retail pharmacist, who has also had long experience in hospital pharmacy.

MR. MAURICE POWER (vice-president of the Society) has his pharmacy in Limerick city and is an officer of the Limerick Chemists' Association. He is especially interested in veterinary and horticultural aspects of pharmacy and is responsible to the Council for organising lectures of veterinary and horticultural interest to pharmacists in the provinces.

New Candidates

ALDERMAN M. L. CASHMAN, Killorglin, co. Kerry, entered pharmacy from University College, Dublin, After experience as a dispensary compounder and a hospital pharmacist, Mr. Cashman opened pharmacist, Mr. Cashman opened his own pharmacy at Rathmines, Dublin, in 1941. He has been a member of Dublin Corporation for seven years, is chairman of the streets and town planning committee and a member of the housing committee. A member of the Dublin Board of Assistance, he was appointed chairman of a select committee set up to consider health legislation and report to the

Board. He is a member of the committee of the Photographic Dealers' Association.

MISS LAURA CUNNIFFE went to Galway some twenty-seven years ago as compounder at the Central Hospital. She resigned from that post two years later to open her own pharmacy in William Street, Subsequently she opened a second pharmacy at Salthill, Galway. During the war years she was a divisional officer in the Red Cross. Miss Cunniffe is being put forward by the Galway City and County Chemists' Associaion. She states that it is her intention to further to the best of her ability the interests of the Society as a whole, and in particular to uphold the ethical standards and dignity of pharmacy as a profession.

MRS. MARY M. HALPENNY was educated at Dominican College, Dublin, and at University College from which she graduated B.A. in 1934. Entering pharmacy, Mrs. Halpenny qualified in 1950 and became a member of the Society. She now has a pharmacy in Captain's Road, Kimmage, Dublin. She is a founder member of the post-graduate lectures committee.

MR. MICHAEL F. MOORE was educated at St. Macartan's Seminary, Monaghan, and graduated from the College of Pharmacy in 1946. A prominent member of the Monaghan Gaelic Athletic Association senior football team he later issined the College. ball team, he later joined the College of Pharmacy team and served on the College committee. He has a pharmacy in Donore Avenue, Dublin, and is actively interested in the post-graduate lectures committee, of which he is a founder member.

MR. ROBERT J. SEMPLE was educated at St. Colm's College, Derry, and graduated from the College of Pharmacy in 1947. Hospital pharmacist at St. Anne's Hospital, Northbrook Road, Dublin, he initiated the Hospital Pharmicists' Association in 1955. He also owns a retail pharmacy at Stillorgan, co. Dublin. Mr. Semple has had experience of the distributive side of pharmacy having represented Eli Lilly & Co., Ltd., prior to taking up his present appointment. He is a founder member of the post-graduate lectures committee.

NORTHERN IRELAND HEALTH BOARD

Difficulty with absorbency of dressings

SPEAKING at a meeting of the Northern Ireland General Health Services Board in Belfast, recently, Mr. H. W. GAMBLE, J.P., stated that the pharmacists in Northern Ireland were having more difficulty than their colleagues in Great Britain with the absorbency of dressings. It was possible, he said, that that might be due to the packing and transportation of the articles from Great Britain.

Mr. Gamble referred to the difficulty of securing an adequate standard for dressings. The effect of age on the dressings. The effect of age on the absorbency factor was by no means

consistent. In some cases absorbency might be unsatisfactory after the dressings had been in stock for two or three weeks. In other cases where the dressings had been in stock for two or three years the absorbency might be quite satisfactory.

Mr. Gamble was speaking on a minute of the services committee, which was adopted by the Board, that a firm of chemists should be severely reprimanded. The complaint against the firm was that the appliance supplied by them on a test prescription was not in accordance with the prescription in that

it did not conform to the requirements of the British Pharmaceutical Codex

for absorbency.

The services committee minute showed that Mr. "X" had supplied two 1-oz. sealed packets of B.P.C. lint and he had stated that he could not see how he could be held responsible or how he could protect himself. He had always bought the best quality lint and he sought guidance from the committee on how to prevent a recurrence. In reply to questions, Mr. "X" had stated he could not tell exactly how long that particular packet had been in stock. It certainly had not been stocked for longer than nine months, probably much less. The lint had been kept in a dry store which was heated by a stove in winter and it had not been stored close to the heat. Nothing heavy had been stored on top of the lint. At a resumed meeting of the services committee, Mr. "X" had stated that he had no comment to make except to plead guilty to having kept the lint in stock too long. That was a slow "line" and he had only bought two doz, of those packets over the past three years. He agreed that he was mistaken in telling the Committee at the previous meeting that he had not had that item 'in stock for longer than nine months. He was now aware that he must have had it in stock sinee March 1954 but wished to point out that that was the first time that he had realised that lint, properly packed and properly stored, would deteriorate over a period of time.

In its conclusions, the committee found that the lint dispensed was markedly less absorbent than required by the B.P.C., and agreed that the inference to be drawn from those facts was that the chemists were in breach of their terms of service in that the appliance dispensed by them was not in accordance with the prescription,

NEW COMPANIES

P.C. = Private Company; R.O. = Registered Office

D. ROYCE, LTD. (P.C.). — Capital £10,000. To acquire the business of a pharmaceutical chemist earried on by Donald Royce, M.P.S., 19 Ropergate, Pontefract, Yorks. Directors: Donald Royce and Kate Royce.

CLARKES CHEMISTS (CHEP-STOW), LTD. (P.C.).—Capital £6,000. To acquire the business of a chemist and druggist carried on by Henry R. Clarke, 19 Moor Street and Beaufort Square, Chepstow, Mon. Directors: Henry R. Clarke, M.P.S., Gladys A. Clarke and Ivor H. Thomas, M.P.S. R.O.: 19 Moor Street, Chepstow, Mon.

M.C.P. PURE DRUGS, LTD. (P.C.).
—Capital £1,000. To carry on the business of manufacturers, importers and exporters of and wholesale and retail dealers in pharmaceutical, medicinal and chemical preparations, etc. The directors are not named. Solicitors: Slaughter & May, 18 Austin Friars, London, E.C.2.

Company News
Last year's figures in parentheses

POTTER & CLARKE, LTD.—Mr. L. J. Critchell (sales manager) has been appointed a director of the eompany.

QUICKFIT & QUARTZ, LTD. — Group trading profit for year ended June 30 is £953,928 (£809,910); net surplus £324,844 (£312,764) the figures being subject to completion of the audit.

BUSINESS CHANGES

BOOTS, LTD., have acquired the business formerly carried on by the late Mr. H. Meynell, 32 High Street, Tenterden, Kent.

JAMES L. HATRICK & CO. (LONDON), LTD., are removing to 170 Archway Road, Highgate, London, N.6, on October 1.

Appointments

BURROUGHS WELLCOME & CO., 183 Euston Road, London, N.W.1, have appointed Mr. John Adnum manager of their publicity department.

AYRTON, SAUNDERS & CO., LTD., 34 Hanover Street, Liverpool, 1, have appointed Mr. M. H. Espley, M.P.S., to the analytical department, and Mr. K. G. Edwards, M.P.S., to the sterile products unit.

THOMAS KERFOOT & CO., LTD., Vale of Bardsley, Ashton-under-Lyne, have appointed Mr. R. G. Bloomfield their representative in South London and adjoining Home Counties in succession to Mr. V. T. Kelly who has been appointed assistant sales manager at Vale of Bardsley.

MARRIAGES

BOX—MACVEIGH. — At Holy Cross Church, Ardoyne, Belfast, recently, Arthur James Box, London, to Mary Elizabeth MacVeigh, M.P.S.N.I., Wolfhill, Ligoniel, Belfast.

ELLAM—DOBBIN. — At Holy Family Church, Limestone Road, Belfast, on September 15, Dr. Roy Ellam, London, to Cecilia Dobbin, M.P.S.N.I., Belfast.

DEATHS

JUKES. — On September 18, Mr. Bernard Charles Jukes, Basingstoke, Hants, aged seventy-seven. Mr. Jukes qualified as a chemist and druggist in 1904.

ROLLETT. — Recently, Mrs. C. Rollett, aged eighty-five, wife of Mr. Harry Rollett, M.P.S., Wrentham, Beccles, Suffolk,

SODDY.—At Brighton, on September 22, Dr. Frederick Soddy, F.R.S., aged seventy-nine. Dr. Soddy was emeritus professor of chemistry, Oxford University and the discoverer of isotopes. He worked on radioactivity under Rutherford at McGill University in Canada, 1900–02, and afterwards under Ramsay in London. He published his theory of isotopes in 1912. He was elected a Fellow of the Royal Society in 1910 and in 1919 he became Lee's professor of inorganic and physical chemistry at Oxford. In 1921 he was awarded the Nobel prize for chemistry—the first English-born chemist to receive that honour. His books included "Radioactivity," "The Interpretation of Radium" and "The Interpretation of the Atom."

WHEATLEY. — On September 21, Mr. Alfred Reuben Flewitt Wheatley, M.P.S., 132 Cheltenham Road, Gloucester. Mr. Wheatley qualified in 1904. He was in business on his own account in Gloucester and prior to that, managed the Northgate Street branch of Boots, Ltd., in the town. He opened that branch in 1914. Mr. Wheatley is survived by his widow and two daughters.

PERSONALITIES

MR. CHARLES A. QUINN who, two months ago, expressed his intention of resigning from the Council of the Pharmaceutical Society of Northern Ireland because of pressure of business, has withdrawn his resignation. Mr. Quinn is vice-president of the Society and is also a member of the Statutory Committee and of the recently formed Northern Ireland Poisons Board.

SIR HUGH LINSTEAD, M.P., F.P.S. (a secretary of the Pharmaceuti-

cal Society) is lecturing in Canada from October 2 to November 4, at the invitation of the Canadian Pharmaceutical Association, His subject will be the National Health Service and he is speaking in nine out of the ten Provinces. Sir Hugh is being pre-



sented with an honorary degree by the University of British Columbia during his tour.

MR. JOHN ADNUM, who has been appointed manager of the publicity department of Burroughs Wellcome & Co. (see col. 2), has been with Spottiswoode Advertising, Ltd., for the past five years and relinquishes a post as senior account executive responsible for the planning and direction of marketing and advertising campaigns on a group of national accounts. Prior to that appointment he was for some years publicity manager of Glaxo Laboratories (India), Ltd.

MR. STANLEY BOOTH, B.Sc. (Pharm.), F.P.S., Langley, Bucks, who has been appointed an inspector by the Pharmaceutical Society (see p. 348), is aged thirty-one and was apprenticed at the Liverpool Radium Institute and Hospital for Cancer, in January 1941. He graduated in pharmacy in Manchester in 1946, and passed the Pharmaceutical Chemist examination the same year. After further hospital and analytical laboratory experience his military service was spent as a sergeant-dispenser mainly at a general hospital in Japan. Subsequently he held a number of managerial appointments in retail pharmacy and at the time of his appointment as an inspector was the superintendent pharmacist of the Slough and District Co-operative Society, Ltd.

PHOTOGRAPHIC NOTES

Tripod Range.—R. F. Hunter, Ltd., 51 Gray's Inn Road, London, W.C.1, state that their new range of tripods is now available and in course of distribution. It includes a tripod suited to almost every requirement.

Popular Priced Miniature Camera. -Pullin Optical Co., Ltd., 93 New Cavendish Street, London, W.1, sole agents for the United Kingdom for the Arette 1A 35-mm, miniature camera, point out that supplies are now available.



Arette 1A 35-mm, camera.

camera is fitted with an Isco Westar 45-mm. f/2.8 colour-corrected lens and Prontor SVS shutter of nine speeds from 1 second to 1/300 second. By the movement of a level the film is advanced, the shutter cocked and exposure counter operated. The viewfinder is of reflector frame type, with the two picture-limit-ing frames reflected simultaneously.

London Office. — The address of the London office and showroom of North Staffs Photographic Services is 36 Wardour Street, Piccadilly, London, W.1. Items recently introduced by Messrs. North Staffs include the Wata PF1/ASCC flash adaptor, and a pistolgrip shutter-release for cine or still cameras.

High-performance Flash Gun.—The right-performance Flash Gin.—The fold-away, pocketable Agaflux high-performance flash gun is claimed by the manufacturers, Agfa, Ltd., Deer Park Road, Wimbledon Factory Estate, London, S.W.19, to be the neatest and most compact unit of its kind ever designed. When closed, the gun measures $4\frac{1}{4}$ x $2\frac{1}{4}$ x $1\frac{1}{2}$ in., and packs into a zip case.

Booklet on Flash Photography. -Philips Electrical, Ltd., Century House, Shaftesbury Avenue, London, have published a comprehen-W.C.2, sive guide to modern flash photography and photoflood lighting entitled "Perfection in a Flash" $(7\frac{1}{8} \times 4\frac{1}{8} \text{ in. } 72 \text{ pp.})$. Covering every aspect of the subject in full detail it is available for sale by photographic dealers at 2s. 6d. per copy.

Film Exposure Guide.—Kodak, Ltd., Kingsway, London, W.C.2, have produced on a three-fold card size $4\frac{1}{2}$ x 3 in. a film exposure guide for roll and miniature films. The guide illustrates what is intended by "light," "average" and "dark" subjects and gives daylight and flash exposures for each on Verichrome pan and Plus-Y: each on Verichrome pan and Plus-X; Tri-X; Panatomic-X; and Verichrome (ortho) films.

TRADE NOTES

Additions to Range. — Boots Pure Drug Co., Ltd., Station Street, Nottingham, have made available packs of 100 vials of penicillin G crystalline, B.P. (sodium salt) 0.5 and 1.0 mega units.

Distribution Change. -Distribution Change, — Distribution of Bislumina is being undertaken by the newly formed M.C.P. Pure Drugs, Ltd., 86 Strand, London, W.C.1 (see p. 351), who will also exercise control over its manufacture and maintain contact with physicians. C. J. Hewlett & Son, Ltd., King George's Avenue, Watford, formerly the sole distributors, are continuing to hold supplies.

Fish-oil Capsules.—Under the name Sea Pearls, the pharmaceutical division of Mayborn Products, Ltd., Dylon Works, Sydenham, London, S.E.26, is distributing (in tin of 100) capsules each containing 4,500 international units of vitamin A and 450 i.u. of vitamin D. A counter display box of twenty-four tins also contains fifty individual sample capsules in a separate dividual sample capsules in a separate compartment.

Features of an Electric Blanket. — Belmont Manufacturing Co., 7 James Street South, Belfast, Northern Ireland, are manufacturers of the BelStat electric blanket (for single or double bed), for which they claim the advantages, that it incorporates a advantages that it incorporates a special safety switch, is thermostatically controlled, and has a triple-strand element. The blanket is fully tested, and is issued with a twelve-months' guarantee.

Vacuum Vessels in Infant Feeding. Although vacuum flasks have a place in infant feeding, it is not as feedingbottles. So many customers were confused on the subject that a special explanatory leaflet was produced some time ago by Thermos (1925), Ltd., Seymour Road, Leyton, E.10. At tem-peratures between freezing and boil-ing points milk and milk foods should not be kept in vacuum vessels because bacterial action and consequent curd-

ling are only accelerated thereby. They may be put into vacuum vessels with safety if the following conditions are satisfied:—(a) The milk is absolutely fresh; (b) the milk is at boiling point or near freezing point; (c) the lining of the vessel has been suitably warmed or chilled beforehand. For warming modified cow's milk prepared in advance for infant feeds a vacuum jar three parts filled with boiling water is convenient. At feeding time the bottle containing the milk feed is put into the water and warmed to blood heat. In the pre-paration of dried-milk feeds a vacuum jug of boiling water saves the trouble of boiling a kettle in the small hours.

Bonus Offers

IMPERIAL CHEMICAL (PHARMACEUTI-CALS), LTD., Wilmslow, Cheshire. Gam-mexane louse powder. Twelve for price of cleven. During October only.

SOUTHALLS (BIRMINGHAM), LTD., Charford Mills, Saltley, Birmingham, 8. Southalls baby powder. Fourpence per doz. tins, irrespective of quantity, on all orders booked by December 31.

CAMILATONE, LTD., Edgware Road, London, N.W.9. Tonrinz. 2 doz. free with every gross (in addition to bonus offer previously mentioned (C. & D., September 14, p. 301)).

WM. R. WARNER & Co., LTD., Power Road, London, W.4. Veganin and Tyrosolven. Extra 5 per cent. plus 10 per cent. discount on parcels of 72 x 10 or 72 x 20 Veganin; or 48 x 20 Tyrosolven; or on a mixed parcel of 72 x 10 and 36 x 20 Veganin and 12 x 50 and 24 x 20 Tyrosolven.

S. Maw, Son & Sons, Ltd., Aldersgate House, Barnet, Herts. Maw's toilet lanolin. Thirty-six tubes for price of thirty or twelve tubes for price of eleven. (To comply with Customs and Excise regulations purchase tax will be charged on thirty-six or twelve tubes according to quantity ordered.) From October 1 to November 30 only.

A SALES REORGANISATION

Progress of Bowater-Scott Corporation

THE first regional sales office of the - Bowater-Scott Corporation is opening

Mr. R. G. Lagden

on October 1. The new southern region covers the area south of a line from the Wash to Bristol. From an office at 72 Upper Ground, Lon-don, S.E.1, Mr. E. K. Miller (sales manager for the region) will direct his sales force. Since joining the Cor-

poration in 1955 Mr. Miller has been engaged in preparatory work on the opening of the regional office. He will be responsible to Mr. R. G. Lagden (general sales manager of the Corporation). Three more regional sales offices (Midland; Northern; and the Scottish and Northern Ireland) are opening later, Mr. Lagden (general

sales manager) recently returned from a round trip of 50,000 miles undertaken to promote sales in the Far East. He also visited the plants and sales offices of the Scott Paper Company in the United States. Another appoint-



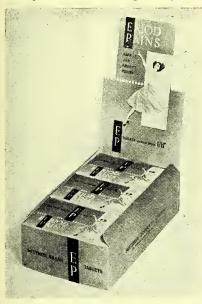
Mr. P. J. Medcalf

ment is of Mr.
P. J. Medcalf as advertising executive of the Corporation. For the past three years Mr. Medcalf has been assistant to the general sales manager and has been closely associated with the growth of the Corporation and the marketing of its products.

NEW PRODUCTS AND PACKS

Treatment of Circulatory Disorders.—A new speciality, Lipostabil capsules for the prevention and treatment of circulatory disorders, is being marketed by John Ronaldson & Co., Ltd., 3 Crooked Lane, London, E.C.4 (sole distributors in the United Kingdom and Commonwealth).

Tablets for Period Pains,—Southon Laboratories, Ltd., 88 Upper Richmond Road, London, S.W.15, are marketing through chemists their speciality E.P.



tablets, which for many years has had a direct sale to industrial welfare departments, Each E.P. tablet contains phenacetin, gr. 1½ and ephedrine hydrochloride, gr. ½; they are being marketed in sixteen-tablet and 100 tablet Seal-tite packs. The tablets provide relief from the pains that have come to be regarded by many women and girls as normal to menstruation.

Penicillin-V with Sulphonamides.— Eli Lilly & Co., Ltd., Basingstoke, Hants, have introduced a new speciality, Pen-V-Sulpha (penicillin-V with sulphonamides). Each tablet contains penicillin-V Lilly, 125 mgm., with 167 mgm. each of sulphadiazine, sulphamerazine and sulphadimidine. Pen-V-Sulpha tablets are available in bottles of twenty, 100, 500 and 1,000 scored tablets. Messrs. Lilly have also introduced two new strengths of Pulvules penicillin-V Lilly. In addition to the original 125-mgm strength, the product is now available in Pulvules of 62.5 mgm. in bottles of twenty, 100 and 1,000; and of 250 mgm., in bottles of twelve, 100 and 1,000. The smaller strength is suitable for children and the larger strength more convenient where heavy dosage is indicated.

Acid-stable Oral Penicillin. — The Distillers Co. (Biochemicals), Ltd., Speke, Liverpool, 19, are making available on September 29, two new preparations containing acid-stable oral penicillin V. The first is Distaquaine-V elixir providing, by the simple addition of water to granules, a palatable

alternative to Distaquaine-V tablets, especially for children. When constituted, each dose (½ fl. dr.) contains 30 mgm. penicillin V. The pack is a 2-fl. oz. bottle with which a plastic spoon of ½ fl. dr. capacity is provided. The second new product is Distaquaine-V Sulpha, a balanced combination of penicillin and two sulphonamides. Each tablet contains 60 mgm. of penicillin V plus 0.30 gm. of sulphadimidine and 0.14 gm. of sulphamerazine. Distaquaine-V Sulpha is issued in bottles of thirty and 200 tablets.

"Inn" Pack for Beer Shampoo. — Lincoln Hair Products, Ltd., Shaftesbury Mews, Stratford Road, London, W.8, are issuing a six-sachet pack of their Linc-o-Lin beer shampoo in the form of an inn ("Lincoln Inn").

New Size and Pack.—A new familysize pack of Handy Andies three-ply tissue handkerchiefs is introduced by the Bowater-Scott Corporation. Each pack contains fifty handkerchiefs.



Hitherto they have been sold only in sixpenny transparent-tissue pack. The new size is being sold in a white box echoing the design of the smaller pack, with its blue name panel and red lettering. The pack is wrapped in transparent tissue to ensure perfect hygiene, and carries the Bowater trade mark. Supplies will be reaching chemists during October. Since Handy Andies were introduced in 1953 their sales have increased by over 100 per cent, each year.

Now in Non-crush Tube.—Pacquins hand cream is now being issued in a non-crush polythene tube. The distributors are Scott & Bowne, Ltd., 50 Upper Brook Street, London, W.1.

Large "Economy" Flasks.—County Laboratories, Ltd., Honeypot Lane, Stanmore, Middlesex, have made available a large-size "twin" pack of their Amami wave set and conditioner.

Baby Powder in "Nursery" Container.—Southalls (Birmingham), Ltd., Charford Mills, Saltley, Birmingham, 8, are marketing a new-formula baby-powder in container decorated with nursery animals. The tin has no sharp edges or corners, and is fitted with a captive plastic top.

Combined Lip and Eyebrow Brush. Alfred Franks & Bartlett Co., Ltd., 226 Gray's Inn Road, London, W.C.1, are marketing a "cosmetic notion that's already making the tills ring on the continent." The "notion" is a combination set providing lip-brush at one end and eyebrow-brush at the other, in a pink and grey container. A display "dispenser" in plastic holds one doz. sets.

Growth Factor Named. — Pfizer, Ltd., Sandgate Road, Folkestone, Kent, announce that, after several years' research, the Pfizer organisation has confirmed its discovery of a new and hitherto unidentified growth factor for animal diets. The factor, which the company is producing by a unique fermentation process, has been named the Vigo factor, after Vigo County, Indiana, U.S.A., where a large agricultural research station is maintained by the company. During the past five years the group's research has been aimed at elucidating the action of the growth factor, and intensive trials are being conducted on, among other things, chickens, turkeys and pigs in order to determine the conditions under which optimum economic growth-responses are obtained. The factor is to be marketed in the United Kingdom in limited amounts as Vigofac.



LAUNCHING A PROPRIETARY: Directors of Southon Laboratories, Ltd., Richmond, announce to representatives of women's periodicals that their product E.P. tablets, long used in factory welfare departments, is to be distributed through pharmacies.

PHARMACEUTICAL SOCIETY OF NORTHERN IRELAND

Monthly meeting of Council

FOLLOWING a recent decision, the Council of the Pharmaceutical Society of Northern Ireland held its first evening meeting on September 20, instead of in the afternoon as formerly. The president (Mr. S. E. Campbell) was in the chair. Mr. H. W. Gamble commented on the success of the evening meeting and said that the Council's decision had been for the September meeting only and inquired if the Council was in agreement that its October meeting should be held at a similar time. Mr. G. E. McIlhagger moved that the Council should continue to meet in the evening each month and that the Committees should meet prior to the Council. Mr. C. A. Quinn (vice-president) seconded, and the Council agreed.

Statutory Committee Appointment

The minutes of the previous meeting were adopted on the motion of Mr. McIlhagger, seconded by Mr. W. H. BOYD. THE SECRETARY (Mr. William Gorman) reported that he had received a letter from Mr. Fred Storey, C.B.E., who had sustained injuries in a recent accident, thanking the Council for their expression of good wishes for a speedy recovery. The Ministry of Home Affairs forwarded a warrant to the Council appointing Mr. W. F. Patton, Q.C., a member of the Statutory Committee for a period of five years from August 1, 1956. The Council approved—on the motion of Mr. J. McGregor, seconded by Mr. H. W. GAMBLE, O.B.E.—an application from Miss Catherine Grace Eakin, a pharmacist registered in New South Wales, to be placed on the Northern Ireland register. An application was also received from Mr. Alexander Brown, Newry, asking to have his name restored to the Register. His request was granted from the date of application of the motion of MR. GAMBLE, seconded by Mr. BOYD.

The Council agreed to a request from the Associates' Section of the Ulster Chemists' Association for the use of the Society's main hall on November 8 for its annual meeting. On the proposition of MR. BOYD, seconded by MR. H. J. Cousley, M.B.E., the Council adopted the report of the Education Committee. The Committee had recommended that the following twenty-one candidates should be granted the Society's certificate of registration: J. S. Burns, Belfast, S. B. Carlisle, Dromore, B. R. E. Cheyne, Dunmurry, N. F. Donnelly, Portadown, A. Frazer, Cookstown, B. J. Gilligan, Garrison, J. V. Greening, Omagh, B. G. Hamilton, Belfast, R. S. Harbinson, Rathfriland, J. Johnston, Augher, E. P. J. Kelly, Belfast, T. A. W. Kennedy, Belfast, R. Larmour, Belfast, J. McCammon, Belfast, J. McElroy, Omagh, A. E. Mitchell, Newtownstewart, W. E. Moore, Belfast, J. M. O'Hagan, Moneymore, J. P. Shiels, Belfast, R. E. Stevenson, Rathfriland, and A. R. Swann, Belfast.

The report of the Finance Committee was adopted on the motion of Mr. James Irwin (treasurer), seconded by Mr. McIlhagger. The Council adopted a recommendation that the £4 4s. fee of a student should be returned, as the person concerned had taken up another appointment and did not wish to continue his study of pharmacy. The Council agreed to affix the seal of the Society to certificates of qualification of Samuel Edward Fullerton, Dorothy Hall, Harold Morrow Hamilton, John Charles Mundell McCrea, Peter Joseph Mulgrew, Arthur Graham Newberry and Eleanor Margaret Welsh

Increased Expenditure

In a summary of his report—which is being presented at the annual meeting of the Society—MR. IRWIN drew attention to an increase in expenditure over the previous year. There was, he said, a slight increase in retention fees and an appreciable rise in examination fees. His draft statement

was adopted on the motion of MR. McGregor, seconded by MR. C. E. Moss. The Council decided to fix the annual meeting of the Society for October 1, and it was agreed on the motion of MR. BOYD, seconded by MR. W. P. EWART, that Mr. Gamble should occupy the chair, as the president (Mr. Campbell) was a candidate for re-election to the Council. Messrs. H. W. Gamble and Boyd were appointed scrutineers of the Council election (see C. & D., September 22, p. 310).

MR. CAMPBELL said that the recent Dublin conference had been one of the most successful he had attended. He congratulated the Dublin committee on the arrangements. MR. GAMBLE agreed with the president and moved that a letter of appreciation should be forwarded to the local committee. MR. McGregor seconded, and Messrs. Boyd and H. F. Moore joined in the expression of appreciation. Mr. Campbell said he had already written a personal letter of thanks. The Council also agreed to forward a letter of appreciation to Professor Bullock. MR. GAMBLE, who moved the resolution, said that, in his opinion, the success of the Conference was largely due to Professor Bullock's excellent chairmanship.

Education Regulations

Mr. Gorman reported that he had attended—with Mr. Boyd-a meeting that had been requested with representatives of the Society by the Association of Directors of Education. The meeting was also attended by officials of the Ministries of Education and of Home Affairs. The directors had asked for clarification of certain matters in the Society's new education regulations. The directors had asked what assistance pharmaceutical chemists were going to give new students who would be attending a full-time course for one year before entering a shop to do their apprenticeship. Mr. Gorman said the directors had been told that there was no question of assistance since no contractual obligation would have been entered into on either side. The directors had been anxious for an assurance that where a student was subsidised to come to Belfast to do a full time one-year course, he would be offered a position as an apprentice in a shop. The directors were anxious that in such a case there should be no risk of a student not getting a position. Mr. Gorman said that they had informed the meeting that a guarantee could not be given to each individual student, but they had pointed out that last year's eighty apprentices had found employment with chemists. In 1956, it was anticipated that about forty would register as students and of that number some might not pass the Part I examination in June 1957. They had informed the directors that the Society would be quite safe in saying that not more than forty students would be looking for positions with chemists next

Also raised by the directors was the question of the Part I course. The directors had asked the Society why physics and chemistry were wanted as compulsory subjects. Mr. Gorman said they had pointed out that from October 1 a flow of students would be coming in with physics and chemistry at senior level. It was the Society's intention to give students a better foundation for the Part II examination. It seemed from the discussion that it would be much more convenient for the education authorities if the students could continue at secondary schools and get their Part I subjects there. In that case there would be no financing of students who had to come to Belfast at the moment. Mr. Gorman said they had asked the Ministries' representatives what their reaction would be if the Council proposed the abolition of the Part I examination and allowed students with the specific subjects at advanced level in senior

schools to commence serving an apprenticeship. The reaction was that the Society would in all probability get very few students.

MR. BOYD said the directors expressed a feeling that if they subsidised a student to take Part I and if he could not get employment it was a waste of money. There was nothing, he said, to prevent a student from asking a chemist to take him on whenever he passed his Part I. MR. COUSLEY thought that a student or a prospective student would make arrangements with a chemist before he took any lectures.

Teachers' Views Sought

MR. McIlhagger thought that the time was opportune for having the academic side of pharmacy represented on the Council. After some of the Council meetings some of the teachers should be invited along to give any views they might have to the Council.

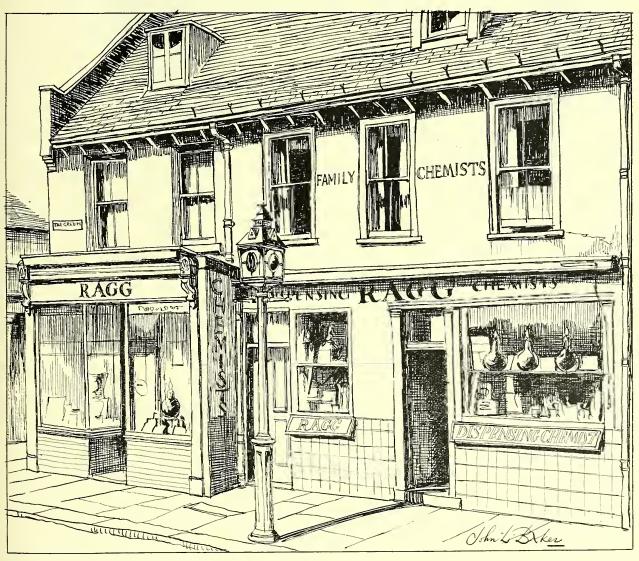
On the motion of MR. BOYD, seconded by MR. McGREGOR, the secretary was instructed to prepare a memorandum for issue to the Society's members giving an explanation of the new regulations.

INFORMATION WANTED

The Editor would appreciate information about suppliers of the following items:

SUX lump alum
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ALTIDIN

PHARMACIES OF BRITAIN—50



THE PHARMACY OF RAGG, LTD., EDMONTON

In 1827 William Ragg took over an apothecary's business at Edmonton Green, London, at which still today a pharmacy is carried on by his grandson. The premises have undergone little or no alteration except that the windows, which were damaged during the 1939-45 war, and the glazing bars broken, have been replaced. The lamp on the pavement outside, with the red bull's eye glass, is the property of the pharmacy. Inside the pharmacy is a large collection of specie jars and engraved labels.



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Phosphorus (CaHPO ₄)	108 mg.

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Potassium (K ₂ SO ₄)	5	mg.
Manganese (MnO ₂)	1	mg.
Zinc (ZnO)	0.5	mg.
Magnesium (MgO)	I	mg.
Boron (Na ₂ B ₄ O ₇)	O. I	mg.
Vitamin B ₁₂ as present in	concentra	ated
extractives from streptom	yces fern	ien-
tation.	0.34 mc	gm.

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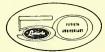
 $\begin{array}{lll} Thiamine \ Mononitrate \ (B_1) & \text{10 mg.} \\ Riboflavine \ (B_2) & \text{10 mg.} \\ Niacinamide & \text{100 mg.} \end{array}$

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Returns that Lie on the Shelf

ENDEMIC in all Government Departments there seems to be a passion for costly and complicated returns. The Ministry of Health is particularly susceptible to the infection—or at least to pharmacists the manifestations of its condition are more obvious. The latest is in regard to hospitals. Nationalisation of the hospital service in 1948 brought, of course, a great increase in forms and returns and an elaborate costing system. The system was replaced in 1950 by a "simple" uniform system of Hospital Cost Accountancy. In 1955 a Working Party on Hospital Costing proposed that the departmental costing—the main scheme—should be applied in the first place only to the larger hospitals, and hospitals not at first undertaking the main scheme would continue a "subjective" analysis of expenditure much on present lines. But it went on to recommend that, in addition to producing annual statements, hospitals should produce monthly or quarterly "interim cost statements."

The Minister has decided to put those recommendations into force as from April 1, 1957. Even from the guarded statements of the Working Party it is clear that the new requirements will involve substantial work and expense, and already there have appeared evidences of concern among hospital pharmacists, at the new demands on their time and energies.

The Ministry has been equally prone to a multiplication of returns in relation to drugs. Some years ago chemist contractors claimed an increase based on a rise in the cost of living, in salaries, and in overheads generally. They were told that they must establish their case by submitting a large number of detailed returns to be provided by individual chemists. The returns were made, and what happened? Only a demand for more—and more elaborate—returns. Those, too, were furnished. Four years have passed, and the best that can be said for the Ministry is that it is stalling deftly! In the end it is probable enough that an arbitrary offer will be made that bears no relation to the data so laboriously collected.

The Ministry's liking for complicated returns was further shown when manufacturers were required to make elaborate costings of their products, and the returns were scrutinised by Board of Trade accountants. These have occasioned heavy work and expense alike to the industry and the Board of Trade, and the value of the exercise is not too apparent. The manufacturers, most of whom are engaged in the export trade, must cut prices fine to meet heavy foreign competition, yet

they have also to set aside large sums for research. Their dilemma was belatedly recognised by the Government, and an attempt to impose a cost-plus system appropriate to contractors supplying materials to Government departments was not pursued.

Returns are, of course, necessary and we do not object to them provided they are planned to call for a minimum of labour, and more importantly provided due use is made of them when obtained. Too many official returns are filed and forgotten. Some of the data quoted in a recent article in the *British Medical Journal*—the general purport of which was that "expensive" drugs may, in the long run, prove an economy — had lain unnoticed in the Ministry's voluminous Hospital Costing Returns. A properly planned analysis of hospital costs from available information, and an examination of the large amount of material relating to prescriptions in the pricing offices, might throw more light on N.H.S. drug costs than all the questionnaires that are devised, answered, presumably looked at, and set on one side.

Overseas Trade in August

UNITED Kingdom exports in August were valued at £253.4 millions, or nearly £13 millions less than in July and $4\frac{1}{2}$ per cent. below the average for the first seven months of the year. Whilst a fall is usually anticipated in August because of the holidays, the fall was less marked this year than in most recent years—owing, no doubt, to the fact that the period covered by the August figures contained twenty-seven working days, whereas July had only twenty-five working days. Imports in August, at £322.3 millions, showed an increase of £2 millions over July. Re-exports continued to show the decline of recent months, the total of £8.2 millions being the lowest since July 1955, helping the visible trade deficit to increase to £60.8 millions (or £16½ millions more than in July).

The August decline in exports was fairly widely spread among the various commodity groups, including chemicals. Exports of drugs, medicines and medicinal preparations were valued at £2,915,625, against £2,931,210 in July and £3,226,612 in August 1955. For the first

EXPORTS			VALUE
Drugs, medicines, medicinal pre	parat	tions	£
(total)	•••		2,915,625
Vitamins			201,178
Penicillin salts			93,526
Penicillin injections	•••		50,236
Penicillin tablets, ointments, etc.			52,752
Antibiotics other than penicillin			395,313
Quinine			21,953
Alkaloids, excluding quinine			99,503
Aspirin	• • •		89,013
Antihistamines			38,462
Antipaludics			70,671
Barbiturates			44,146
Liver extracts			15,498
Ointments and liniments			114,161
Insulin			36,867
Sulphonamides		1	151,343
Proprietary medicines			831,503
Unclassified medicines			579,655
Glycerin			19,230
Acetone			20,845
Citric acid			32,002
Salicylates			18,364
Perfumery and toilet preparations			10,501
Lipstick, face powder, etc			265,844
Dentifrices			164,314
Toilet soaps			253,235
Synthetic detergents			678,191

	IM	PORTS	S		VALUE
					£
Vitamins					129,287
Antibiotics					30,584
Alkaloids				 	122,324
Proprietary me	dicine	s		 	40,917
Unclassified me	edicine	es		 	281,105
Borax				 1	52,970
Iodine				 	71,467
Menthol				 	28,415
Essential oils					
Bergamot				 	4,442
Citronella				 	30,785
Clove					11,596
Geranium				 	9,486
Lavender				 	5,844
Lemon					21,342
Orange				 :	11.191
Peppermint					83,514
Unclassified					195,429

eight months of 1956 shipments of drugs, etc., totalled £23.6 millions, against £22.8 millions in the corresponding period last year—a period which included the rail and dock strikes. During August Australia, with purchases at £211,796, displaced India as the largest customer for U.K. drugs and medicines. Unfortunately for British exporters, the change was not due to higher purchases on the part of Australia but to a drop in the value of shipments to India, the latter country's purchases being valued at £195,803 against a monthly average of £245,000 for the year to date.

Export and import values of those medicines and allied products for which statistics are available are given in the accompanying table. Most showed a decline against previous months, penicillin being at its lowest since May. The value of trade, however, in other antibiotics was higher than in any month since January. Alkaloids, including quinine, exported exceeded imported alkaloids in value, a position British manufacturers will not lose sight of.

NEW BOOKS

Gas Chromatography

COURTENAY PHILLIPS. Butterworths Scientific Publications, 88 Kingsway, London, W.C.2. $8\frac{1}{2}$ x $5\frac{1}{2}$ in. Pp. 105. 25s. (postage ninepence extra).

In what is intended as a broad survey of the developments in gas chromatography since it evolved from gasliquid chromatography as introduced by James and Martin in 1952, the author shows how, using quantities of the order of 1 mgm., it is possible to carry out rapid and efficient separations of a wide range of volatile and feebly volatile substances, and to perform both qualitative and quantitative analyses. The theory is supplemented by detailed descriptions of the most suitable apparatus, and of vapour detectors. It discusses also gas-liquid partition and gas-adsorption chromatography.

The Law of Restrictive Trade Practices and Monopolies

H. HEATHCOTE-WILLIAMS, M.A., Q.C., EMRYS ROBERTS, M.B.E., M.A., LL.B., barrister-at-law, and RONALD BERN-STEIN, D.F.C., B.A., barrister-at-law. Eyre & Spottiswoode, Ltd., 15 Bedford Street, London, W.C.2. $8\frac{3}{4}$ x $5\frac{1}{2}$ in. Pp. 221. 36s.

This guide to the Restrictive Trade Practices Act, 1956 (now in operation) is doubly valuable. In addition to being comprehensive it is prompt to appear in explanation of legislative provisions that are completely novel so far as Great Britain is concerned. The essentially new character of the provisions resides in the facts that the Act provides, as is by now well known to all sections of the drug trade, for the registration of a wide range of industrial and commercial agreements, and for their investigation; and for fundamental changes in

the law of resale price maintenance. An incidental result is that the Monopolies Commission (with that new shortened title) is concerned with a much more restricted province of investigation. The form the book takes is a narrative account of the provisions of the Act, and of the first order made under it (an Order dated August 2 and effective from November 30). Explanations of the provisions are given in language readily understandable by those without legal knowledge whose position in industry or commerce makes it necessary for them to be familiar with what the Act and Orders prescribe, Apart from explanations and comment the book gives the text of the Act and of the August 2 Order already mentioned, a table of statutes and table of cases, and a summary of similar legislation in force in other countries.

Bentley and Driver's Textbook of Pharmaceutical Chemistry

J. E. DRIVER, M.A., PH.D., M.SC., F.R.I.C. Geoffrey Cumberlege, Oxford University Press, Amen House, London, E.C.4. 9 x 5½ in. Pp. 749. Sixth edition. 55s.

EXTENSIVE changes and drastic revision of the subject matter have been made in this standard work since the previous edition, not only to make it correspond with the 1953 British Pharmacopæia but also to keep pace with rapid advances in the materials and methods of pharmaceutical chemistry. Produced primarily for pharmaceutical studies, the book is of no less importance to practising pharmacists and, indeed, to everybody whose work is concerned with the chemistry of drugs and chemotherapeutic agents. The text has been entirely reset, and the illustrations, mainly explanatory diagrams, are nearly all new. Three principal sections, dealing respectively with analytical methods (seven chapters), inorganic chemistry (twelve chapters) and organic chemistry (thirty-one chapters) are supplemented by six appendixes and a detailed index.

Food Inspection

STEWART SWIFT, M.B.E. Butterworth & Co. (Publishers), Ltd., 88 Kingsway, London, W.C.2. $8\frac{3}{4}$ x $5\frac{1}{4}$ in. Pp. 732 +60. 70s.

THE work deals with the practical aspects of one of the professional interests of the specialist known by the public even today as the sanitary inspector. A number of persons have contributed sections to the book—a companion volume to "Food and Drugs Administration"—making it comprehensive even to the point of a slight overlap between the sections, among which the matters covered include anatomy and physiology of food animals; bacteriology in relation to food; food and drink from the plant kingdom; milk products; preservation of food; adulteration of food and drugs; and food hygiene. The relatively minor part that drugs play in the life of a sanitary inspector is sufficiently indicated by the fact that only one chapter in a book containing seventy-seven is given over to the subject. The chapter enumerates the Acts (including the Pharmacy Acts) and standards (British Pharmacopæia and British Pharmaceutical Codex) with which inspectors are concerned in sampling of drugs for analysis. A chapter on the bacteriology of food poisoning is valuable and informative to pharmacists as well as to those professionally engaged in investigating actual cases and their causes or occasions. There is also a useful bibliography.

A PHARMACIST'S ANTHOLOGY

WITHOUT BENEFIT OF CONTAINER

From On the Edge of the Primeval Forest, by Albert Schweitzer.

How valuable bottles and boxes are away from the civilised world only he can rightly estimate who has had to get medicines ready in the primeval forest for patients to take home with them! The atmosphere is so damp here that medicines, which in Europe can be wrapped in paper or distributed in cardboard boxes, can only be kept in good condition in a corked bottle or in a tin box which closes perfectly. I had not taken sufficient account of this, and I found myself in such difficulty about it that I had to fall out with patients who said they had forgotten or lost a tin box. My friends in Europe were entreated by every post to collect from their acquaintances bottles big and little, glass tubes with corks, and tin boxes of all sorts and sizes. How I look forward to the day when I shall have a sufficient supply of such things.

HOSPITAL PHARMACY FORUM

COSTING IN PROPER PERSPECTIVE

OBODY likes inefficiency: we all prefer to achieve a desired end in the way that involves the least expenditure of energy. This applies whether we are gardening or running a pharmaceutical department. Those who benefit from a scientific training should therefore be the last to object to investigations and experiments which

may lead to greater efficiency.

In the hospital context that surely means the more successful treatment of more patients at less cost. those engaged in the hospital services to achieve that purpose the Ministry of Health has provided a large number of experts in financial matters, and "costing" is their password. The latest notion in the Ministry's drive for efficiency is to arrive at a position where we are able to say what each department of a hospital costs as a proportion of the total expenditure. Presumably, the facts being known, some inference will be deducible from them, but at the moment nobody knows what the inference is likely to be. One would imagine that if, in the radiological department of hospital A, the cost per patient is more than at hospital B, the conclusions could be drawn that (1) Hospital A is extravagant in the number of radiographs required; (2) hospital B is not taking enough radiographs; (3) hospital A uses too many plates per patient; (4) hospital B has a more efficient system of developing; (5) hospital A treats a different sort of patient than B, etc. What is unlikely to be revealed is a gross difference in the price of chemicals or films, for those are already fairly standard. Nevertheless the comparisons may be interesting if all other factors affecting the two departments can also be compared.

When the argument is developed to include not only radiology but catering, operating theatres, out-patient departments and the like it becomes a little more difficult to unravel the tangle of variables and unknowns in order to draw a useful conclusion from the data compiled.

At this point one asks (a) how much it will cost to collect the data; and (b) what saving, if any, is likely to accrue

from it. If \xrightarrow{b} 1 then the only (and doubtful) benefit

is the moral satisfaction to the investigators that the facts have been ascertained. Our primary criterion (better treatment of moral retirement at less east) in not mot

ment of more patients at less cost) is not met.

If the compiling of the data is persisted in, with its inherent necessity for labour in gathering the facts, then clearly a retrograde move has been made. That seems to be the likely outcome of the investigations, now proceeding, in which some hospital pharmacists are involved. They are being required to work out the cost of pharmaceutical goods supplied to the various departments in the hospital.

Problem of Allocation

In the Report of the Working Party on Hospital Costing (S.O. Code 32-432, 1955) two methods are outlined for costing out pharmaceutical supplies. In METHOD I it is suggested that the twenty to thirty drugs which account for 70 per cent, of the total expenditure should be costed out, and the remainder allocated in the same ratio. Those drugs which are used exclusively by one department (e.g., anaesthetic gases or barium sulphate) should be charged direct, and the remainder should be charged out for trial periods of one week each quarter. The ratios thus arrived at would then be extrapolated to cover the whole period. That sounds delightfully simple until the working details are considered. (a) It means that, where there is not already a rigid system of requisitions from the wards, some such system must be instituted; (b) every requisition will have to be scrutinised and the relevant items marked; (c) every in-patient prescription must be scrutinised and the relevant items marked; (d) the marked items must be priced from current lists and charged to the department concerned; (e) every out-patient prescription will have to be scrutinised and the relevant items priced. (That will mean either a delay in returning the prescription to "records" or making copies of the prescriptions); (f) where expensive material is processed in the department (e.g., preparations of hydrocortisone creams or paints, special antibiotic formulations), those too must be costed; (g) if the figures are to be subject to auditor's scrutiny, every order and prescription must be preserved. In some hospitals sufficient information is already collected to make that task, though laborious, not impossible. But in many small hospitals the basic information just is not there, and must be built up.

An Alternative Method

METHOD 2 suggests that each prescription (and presumably, each stock requisition) should be graded according to price (i.e., grade A up to sixpence; grade B, sixpence to 1s.; grade C, 1s. to 2s. 6d.; etc.). The items are to be coded by the pharmacist and then charged to the department of origin. It is presupposed that each pharmacist is sufficiently familiar with current prices to be able to do the coding on the instant as the prescription comes in. Nobody who has experience of current conditions would imagine that to be a likely state of affairs, since usually only one pharmacist is engaged in buying and even he cannot remember the price of all the hundred and one separate items involved. True, the suggestion is that only the "top thirty" should be taken, but those who made that suggestion were clearly unaware that the "top thirty," which account for 70 per cent. of the total, are groups of drugs such as the antibiotics, the barbiturates, the vitamins, etc. Moreover, there is no recognition of the difficulty in keeping the list up to date.

When the trial costing week is completed, a degree of approximation is then necessary in order to obtain the information required by the inquiry. That is of two kinds:—

(a) The remaining 30 per cent, of the drug bill is divided among the departments in the ratio indicated by the "top thirty";

(b) the ratios arrived at are then extrapolated to cover

the whole period.

Approximations of this kind must mean that the probable accuracy of the charge to any given department is not greater than, say, 15 per cent. of the correct figure. Now the cost of drugs and dressings is reported by the Public Accounts White Paper to represent about 4 per cent. of the total maintenance cost of the hospital So, when an additional assistant has been supplied to maintain the price list and do the costing, it looks like a rather heavy method of arriving at little result.

What will be the value of the information when it is finally obtained? Will the doctors alter their prescribing habits because hospital A's figure is 4·12 and hospital B's is 4·13? What conclusions are to be drawn from the fact that in ward α the drugs per patient cost x and in ward β they cost x + y? Will the primary criteria be met, namely better treatment to more patients at less cost?

It may well be that an hour's reflection by the chief pharmacist would provide a guess as to the proportions to be charged out to the various departments that would be as near the mark as the cumbrous methods now proposed and—for all the value either figure is likely to be to anybody—just as useful.

By all means let us have efficiency, but let us be sure it is efficiency we are getting and not the over-exuberance of cost-accountants.

"What are these which are arrayed in white robes? . . . These are they which have come out of great tribulation."

BRITISH PHARMACEUTICAL CONFERENCE, 1956

SYMPOSIUM SESSION

Water for drinking and water for pharmaceutical purposes

Two papers were presented at the symposium session on September 6. The first, which was read by Dr. Burman, was:—

Potable Water

E. WINDLE TAYLOR, M.A., M.D., M.R.C.S., L.R.C.P., and N. P. Burman, B.Sc., Ph.D., F.I.M.L.T. [ABSTRACT]

POTABLE water is obtained from a multiplicity of sources, but the ultimate source is always the sea, usually via evaporation, cloud formation and rainfall. The direct collection of rain rarely provides a pure water because rain water collects dissolved gases and dust during its fall, and must always be collected from a solid surface which may be fouled by birds. Such water is soft and probably plumbo-solvent. To filter and to disinfect it may be necessary. Lakes vary according to rock formation in the catchment area. Limestone areas give hard, alkaline waters; insoluble rock formations soft, acid waters.

In the absence of grazing animals, farms or villages with sewage systems draining into the catchment area, such sources should be bacteriologically pure. Algæ are not likely to be troublesome, owing to the absence of mineral salts in the water. Treatment may involve adding alkalis such as lime to neutralise excess acid, coagulation with alum to remove colour, and treatment with chlorine primarily to remove bacteria.

To obtain an adequate and constant supply from rivers and streams it is generally necessary to abstract the water well below the source, by which time it has usually become polluted not only by natural surface drainage from the land through which the river flows, but from sewage and from industrial effluents. Turbidity may vary widely with rainfall, and river waters are usually hard. They cannot be used without careful treatment, including storage, Storage clarification and disinfection, may serve three purposes: partial clarification by settlement; bacterial improvement from death of some of the polluting bacteria; and reserve supply against drought. Stored river waters against drought. Stored river waters may be clarified by filtration or chemical coagulation or by a combination of the two. Sterilisation of river-derived water is achieved usually by chlorina-tion, sometimes by ozonisation or on a small industrial scale by ultra-violet light. Chlorination and ozonisation also remove some colour and taste by oxidation of organic compounds present.

Shallow wells, which are prone to surface pollution, demand care in siting and protective measures. Many are unsafe without filtration and disinfection.

Deep wells usually give water of good bacteriological quality, as it usually has to travel considerable distances underground, becoming filtered on the way. Fissures and "swallow holes" may,

however, provide access to gross pollution. The waters from deep wells are usually hard. Filtration is rarely necessary, but disinfection with chlorine or ozone is usually carried out as a safe-guard against sudden unpredictable pollution.

Statutory water undertakings are required to provide a supply of pure and wholesome water. Wholesomeness implies non-injury to health and absence of pathogenic organisms and toxic substances. Purity implies absence of visible particles, turbidity, colour, taste and odour, and freedom from excessive amounts of substances in solution not normally detectable by the unaided senses.

The most important function of the bacteriological control of potable water is to ensure freedom from the causative bacteria of so-called water-borne diseases, such as typhoid fever, paratyphoid fever, gastro-enteritis, dysentery and cholera. Cysts of amoebic dysentery and ova of intestinal helminths can also be carried by water, and also, presumably, the virus of poliomyelitis. All those organisms are of fæcal origin, and their absence may be presumed with confidence by demonstrating the absence of the normal intestinal flora: the coliform group, the fæcal streptococci, and anaerobic sporeforming organisms.

Waterworks Control of Bacteria

For waterworks control the organism normally sought is E. coli, but from unknown sources, or where interpretation of results is doubtful, enumeration of Strep, fæcalis and Cl. welchii is of value. The culture medium used in Great Britain for the primary detection of E. coli is MacConkey broth, which contains bile salt and lactose. Coliform organisms other than E. coli also produce a positive result. E. coli is the most frequent type of coliform organism present in human and animal intestines, and is rarely found in sites free from excretal pollution, but other coliform types which occur in the intestinal canal in smaller numbers have much greater powers of survival outside the body, and even appear to be capable of multiplication under special conditions. In addition to being widely distributed in obviously fæcally polluted sites, and in agricultural soils, they can also be found in soil apparently free from fæcal pollution and in which *E. coli* is absent. The presence of *E. coli* in water denotes recent fæcal pollution; the other coliforms may indicate more remote pollution, and in some circumstances may be of no epidemiological significance. If a supply repeatedly gives a high coliform count in the absence of E. coli, it may be due to Streptococcus fácalis, another organism undeniably indicative of fæcal pollution. Clostridium welchii is sometimes used as an indicator of fæcal pollution, but as its spores can survive for longer periods and are more resistant to disinfection by agents such as chlorine, their detection in a raw water in the absence of E. coli or Strep. facalis would be indicative of more remote fæcal pollution.

In addition to examining water supplies for evidence of fæcal pollution, it is usual to attempt to obtain information on the numbers of other bacteria present. Different types of water may all have different colony counts. Such have different colony counts. Such counts are not, therefore, of any value in assessing potability. But once a series of counts has been obtained from any particular supply, any gross variation from the normal becomes of significance, and its cause has to be investi-gated. For pharmaceutical purposes, the relationship between bacterial counts, extent of pollution or raw water, and presence of pyrogens needs further

No Coliform Bacteria

Waters intended for drinking should show no coliform bacteria in 100 mils, and it should be the aim of every water undertaking to provide water of that quality. Many natural waters reach the standard, and no chlorinated supply should fail to give that result. The appearance of coliform organisms in a chlorinated supply as it leaves the works should at once occasion misgivings as to the adequacy of the chlorination process.

In view of the hazards to which the water is exposed in the distribution system, a different interpretation must be placed on the results of samples taken on consumers' premises.

Contamination may occur in the dis-tribution system through defective mains, hydrants, air valves, etc. The construction in distribution systems of "dead ends" in which water cannot freely circulate sometimes causes trouble and should be avoided wherever possible. Distribution systems normally also contain service reservoirs to equalise pressures and provide a reserve against peak demands. In those systems bacterial growth may occur to some extent in a river-derived water under warm conditions. But the biggest danger is usually from leaks, especially in the roof. Defective ventilators permit the access of small animals and birds, particularly in elevated tanks, and regular bacteriological examination of those reservoirs is necessary. Open-service reservoirs should be avoided. Precautions have to be taken to prevent cross-connections with, or to prevent back-syphonage from, various types of apparatus on consumers' premises: sewer flushing tanks, ships' ballast tanks, or raw-water hydraulic mains. Growth of bacteria may also occur on materials, such as jute yarn, used for packing joints in mains and the glands of valves, or on mastic jointing materials used in concrete tanks. Tap washers, particularly if made of leather, can also be a source of bacterial growth. In cisterns the agents likely to cause bacterial contamination are human beings, rodents,

birds, and possibly flies. Inadequate protection may be overcome by the use of standard specifications for cistern plumbing, so as to permit the provision of a close-fitting, overlapping metal lid. The disadvantage in using water from a properly protected cistern is that its temperature is likely to be higher, giving possibly flat or even slightly musty tastes. Where cisterns are exposed to weak alcoholic atmospheres within premises such as those of spirit distillers and bottlers, perfume manufacturers, paint and varnish manufacturers, and even the spirit department of a museum, sufficient nutriment may be present to enable certain fungi to grow profusely, forming gelatinous masses in the cisterns and around ball valves. Bacteria are also found in those zoogleal masses, and protozoa and nematodes soon make their home there.

Earthy, musty or mouldy tastes have been frequently reported from distributing systems in large buildings when no taste could be detected from hydrants in the street. Those tastes have usually been associated with warm semi-stagnant conditions in the pipes in the building, as in large centrally heated office blocks with cold and hot pipes carried in the same ducts and not used outside office hours or at weekends, or where cold pipes run through basement boiler rooms or bakehouses. Under those conditions strains of fungi and sometimes of actinomycetes have been isolated, producing strong mouldy, musty or earthy odours. Those tastes cannot be destroyed by chlorination. In fact, the addition of chlorine often increases the taste, owing probably to the production of stable chloro derivatives.

Requirements for a Potable Water

A potable water should be clear, bright and colourless. Turbidity may originate from rain washings or from the flow of water over or through the soil, or from insufficiently treated sewage or industrial effluents, or it may arise from the growth of algae in reservoirs, lakes or filter beds. It may also result from the precipitation of metals in solution, or from action of water on metal pipes, or from deposition of chemicals used in treatment. Colour may be derived from organic matter in solution, or the material causing turbidity may itself have a colour (for example, clay or iron oxide or green algae). There will be traces of dissolved organic matter in any water derived from a surface source, the colour being deepest in water from acid, peaty sources. Colour due to dissolved organic matter is partly removed by oxidation, whether by aeration, chlorination, or more effectively with ozone. Traces of organic matter are completely removed only by distillation. Colour is measured in a colorimeter by comparison with a standard colour, turbidity photoelectric-ally, allowance being made for the effect of the colour.

A potable water should also be tasteless and odourless. Tastes may originate from decaying vegetation or from micro-organisms such as fungi and actinomycetes, or from the growth of algae. Certain effluents produce objectionable oily, tarry or phenolic tastes. Treatment with chlorine removes some

tastes as a result of oxidation of the organic matter, but it may accentuate others. Chlorine combined with phenolic substances produces chlor-phenol tastes, which are detectable in extreme dilution and are objectionable.

As a result of interaction with ammonia, chlorine may be present in a chlorinated water as free chlorine, monochloramine, dichloramine or nitrogen trichloride. The proportion of any one of those forms depends on the relative proportions of chlorine and ammonia, the nature and quantity of other impurities, the contact time, the pH and the temperature. A simple test for the quantitative estimation or residual chlorine is to add *ortho*-toluidine, which produces an immediate yellow colour if free residual chlorine is present. If the residual chlorine is due to chloramines the yellow colour takes several minutes to develop.

Ammonia arises in a water supply by breakdown of polluting nitrogenous organic matter, particularly sewage. It may be free in solution or combined as ammonium salts. During filtration through sand beds, rapid bacterial nitrification occurs when Nitrosomonas spp. oxidise the ammonia to nitrites, and Nitrobacter spp. oxidise the nitrites to nitrates. Those organisms build up a layer around the sand grains, and so long as the water temperature remains above about 4° C. they remain active. Below that temperature they tend to die out, and ammonia increases in the filtrate. When the temperature again rises, there is a time lag before the bacteria increase to sufficient numbers to oxidise all the ammonia. Ammonia is undesirable because it interferes with chlorination. The chloramines which are formed when chlorine reacts with ammonia are much less effective sterilising agents than free chlorine, and they persist for much longer periods, giving rise to chlorinous tastes in the distribution system.

All surface-derived water supplies contain traces of organic matter in solution. It is usually measured by estimating the albuminoid ammonia content of a sample and the oxygen consumed at a given temperature in a given time from acid potassium permanganate solution.

Chlorides occur in practically all aters. They may be derived either waters. from the strata over and through which the water flows, or by infiltration of sea water, or from sewage. An excess causes a brackish taste, and there is a considerable variation in the amount tolerated. It is usually recommended that chlorides should not exceed 350 mgm. per litre as Cl, but some communities are drinking up to 550 mgm. per litre without observed effect. It is recommended also that sulphates should not exceed 250 mgm. per litre as SO₄. Carbonates do not occur in more than minimal amounts in waters containing calcium salts, but bicarbonates are found. Nitrates present are probably derived mainly from oxidation of organic matter, chiefly of animal origin, and should not exceed 100 mgm. per litre as NO₃.

Some well and spring waters contain iron in solution in the ferrous state, giving the water a chalybeate taste. On exposure to air in reservoirs or tanks, the ferrous iron is oxidised and pre-cipitated as ferric hydroxide. The iron may be removed by aeration and filtration or by an ion-exchange process. Manganese often occurs in conjunction with iron, particularly in upland surface waters, and is not readily removed. Manganese deposits may set up bimetallic systems, leading to corrosion of copper pipes. Manganese in solution should not exceed 0.05 mgm. per litre. Contamination with metallic salts is likely to occur through the solvent action of some aggressive waters on pipes. Steps are taken at some waterworks to correct the aggressive action of such waters. Zinc is relatively harmless, but solution can be so extensive as to cause opalescence from precipitation of zinc hydroxide. With some well waters the zinc accumulates as hard grains of zinc carbonate, which occasionally get flushed through the taps, leading to complaints of "sand" in the water. Zinc content of the water should not exceed 5 mgm. per litre at any point in the distribution system. Corrosion of copper also varies according to the nature of the water. Traces of copper are not likely to be harmful but, if copper-containing water subsequently passes through galvanised pipes or tanks, it dissolves zinc and causes corrosion. Bimetal systems of that kind should therefore be avoided with waters containing no organic inhibitors.

Toxic elements such as lead, arsenic, selenium, chromium (hexavalent) should like cyanide, be absent at the source and, if present in amounts greater than certain specified limits, should cause the supply to be condemned.

From the Water Examination Department, Metropolitan Water Board,

The second paper, which was read by Dr. Shotton, was:—

Water for Pharmaceutical Purposes

L. SAUNDERS, B.Sc., Ph.D., F.R.I.C. AND E. SHOTTON, B.Sc., Ph.D., F.P.S., F.R.I.C.

POTABLE water is a variable commodity from the chemical point of view, the nature and concentration of the impurities remaining in it depending on the locality from which it is drawn. No national chemical standard has been imposed for potable water and indeed such a standard is unnecessary for ensuring that the water fulfils its primary function.

Without further purification, potable water is not suitable for many applications in pharmacy and in chemical work associated with pharmacy. The extent of the further treatment depends on technical requirements and on cost.

The impurities which impose further purification for pharmaceutical purposes are:

(1) Micro-organisms and their breakdown products. That form of contamination should be slight in water freshly drawn from a mains supply. Bacterial breakdown products can cause the pyrogen reaction when present in water used for making solutions for injection. Solutions of that kind are therefore prepared from freshly distilled water, and potable water is used only for sterilising syringes by boiling. Small amounts of hard water remaining in a syringe after sterilisation may yield sufficient alkali to react chemically with medicaments — for example, to cause the precipitation of insulin.

(2) Inorganic salts and dissolved gases, Divalent cations such as calcium are particularly troublesome since they may cause precipitation reactions.

Potable water is now sanctioned in the B.P.C., 1954, and in the National Formulary, for making oral and other preparations. Where incompatibilities do not occur or are unimportant, the use of potable water can be justified on the grounds of economy. However, owing to the variation in the composition and proportion of dissolved salts in potable water in different parts of the country, differences in the properties of certain pharmaceutical preparations are found. For example, the concentration of calcium ions present in the water affects the sol viscosities and gel strengths of alginate and pectin dispersions. The use of potable water can therefore produce problems in formulation.

A major use of water in pharmacy is for cleaning apparatus and containers. If potable water is used for the final rinse, a residue is left on the apparatus after drying which may be alkaline and may give rise to trouble with unbuffered solutions. Water softened by treatment with zeolites or other cation exchangers is economical with certain types of detergents but does not obviate the trouble from residue.

Methods of Purifying Water

In the light of recent developments, methods for purifying water can be divided into the traditional process of distillation (an extravagant process); and removal of impurities at normal temperatures by solid reagents insoluble in water. The development of stable ion-exchange resins that can be reactivated many hundreds of times renders the second method much cheaper than distillation.

Distillation

It is essential that a still should be cleaned regularly in order to prevent growth of bacteria and fungi in the condenser. Sterilisation of the condenser can be carried out daily by steaming out before turning on the condenser water. With high rates of distillation, there is a danger of contaminating the distillate with droplets of liquid carried over from the boiler in the form of a fine spray. Those entrained droplets pollute the distillate with non-volatile impurities.

Shotton and Habeeb have shown that normally the contamination due to entrainment in a simple still is about 1 in 10,000. At that dilution, pyrogenic effects are unlikely to be scrious. Pyrogenic effects with distilled water are more likely to have arisen in a condenser not cleaned and sterilised regularly, or from careless storage of the water in a non-sterile condition.

Two new methods for the electrical heating of water in continuous stills have been developed. One is the use

of a bare nichrome element immersed in the water. When a current is passed through the wire, smooth boiling starts quickly and a rapid rate of distillation is achieved without formation of deposits on the wire. As a result, there is none of the bumping that so often causes trouble when immersion heaters are used. After a time, the boiling water becomes coloured from slow dissolution of the nichrome; however, the distillate is free from nickel or chromium. The element requires replacement at intervals.

The second new heating method uses carbon electrodes immersed in the water to be distilled. It may be necessary to add a salt. A heavy alternating current passed between the electrodes produces sufficient heat to boil the water. Both types of direct electrical heating can give rise to volatile electrolysis products, such as chlorine, in the distillate and tests should be made to ensure that the product is free from those impurities.

Freshly prepared distilled water from a clean, well designed still is substantially free from micro-organisms. On standing, it rapidly becomes contaminated with airborne organisms, unless precautions are taken. Storage of distilled water in carboys over long periods may result in heavy contamination.

The presence of viable bacteria in stored water can give rise to pyrogenic substances and ultimately a hazy appearance which is difficult to remove, giving the water the appearance of a dilute vaccine. The organisms can cause decomposition of materials dissolved in the water. Thus it is essential to sterilise water for injection immediately after collection if it is to be stored, and to minimise the time interval between exposure of the water to contamination and sterilisation of the solution prepared with it.

Treatment with Solid Reagents

The earliest solid reagents used in treating potable water were the zeolites, complex silicates insoluble in water and which exchange the cations such as calcium with sodium ions. softened water obtained after treatment with zeolites is free from divalent metal ions and is, as a result, more economical with certain types of detergents than is untreated potable water. Total non-volatile matter is not, however, reduced. The development of stable ionexchange resins containing strongly ionised acidic and basic groups has led to an important new method for purifying potable water. It has been recognised by both the U.S.P. XV and the B.P. Addendum, 1955, for preparing water suitable for pharmaceutical purposes other than for injection.

The resins now generally used consist of hard insoluble beads of a styrene-divinylbenzene polymer. The cation exchanger has sulphonic acid groups distributed throughout its mass, while the anion exchanger contains quaternary ammonium hydroxide groups. When water containing dissolved salts is passed over a mixture of those two resins, all the cations in the water are replaced by hydrogen ions from the

sulphonic acid resin, the anions being replaced by hydroxyl groups from the anion exchanger. The final result is that the dissolved salts are removed completely, being replaced by hydrogen and hydroxyl ions, and the resulting water has a high specific resistance. When the resins are spent they can be regenerated by separating them by flotation. The anion exchanger is regenerated with sodium hydroxide solution and the cation exchanger with hydrochloric acid. The resins are then washed and re-mixed (operations carried out without removing the resins from the column).

Water purified in this way is called demineralised or deionised water. The product obtained from a single column containing a mixture of the two resins has a much higher resistance and contains less non-volatile matter than does water purified by a two-column process, in which each exchanger is contained in a separate column.

At ordinary temperatures the rate of decomposition of the resins is small and they may be regenerated hundreds of times. Recently, a small laboratory apparatus suitable for laboratories or pharmacies has been made available. It supplies about 8 gall. of purified water per resin charge when London tap water is used as the feed. The resins are not regenerated, but the cartridge containing them is returned to the manufacturer when exhausted and replaced by a freshly activated one. The ion-exchange treatment of potable water is more effective than distillation in removing ionised substances from potable water. Demineralised water may, however, contain other contaminants.

If the feed water is a pure and wholesome potable water, it should contain only small amounts of colloidal matter. As a precaution, the B.P. Addendum monograph on purified water has specified an albuminoid nitrogen test.

The concentration of non-ionic materials in potable water is normally small.

By filtering bacteria and suspended organic matter from the feed water, an undisturbed resin column may become a breeding ground for microorganisms and may finally give a "purified water" which passes all the chemical tests but which is more heavily contaminated with microorganisms than the feed water. This result can be avoided by operating the demineralising plant under controlled conditions.

Provided the resin column is kept free from heavy bacterial contamination, demineralised water may be used in place of distilled water for most purposes except for preparing injection solutions. It should be suitable for making preparations for oral and external use and for preparing stock solutions of chemical reagents. Its cheapness and freedom from non-volatile matter make it advantageous for use as the final rinse liquid in washing containers.

Pyrogen-free Water by Ion Exchange

Present methods for demineralisation of water are not suitable for preparing water for injection though reliable techniques may be developed. Cold treatment with formaldehyde can be done.

Removal of Gaseous Impurities

Demineralised water is completely free from carbon dioxide and free ammonia, but its oxygen content is the same as that of the feed water. On standing in air it rapidly absorbs carbon dioxide, and its specific resistance falls to about 1 megohm/cm. In distillation, the feed water is usually heated to a temperature above 95°C. before it enters a continuous still, thus eliminating most of the dissolved gases.

To ensure that gaseous impurities are removed from the water used for some preparations, the water is boiled for some time, or the dissolved gases are replaced by an inert gas of low solubility, such as nitrogen, by bubbling a stream of the inert gas through the solution, subsequent manipulations of the solution being carried out in an inert atmosphere.

Storage of Purified Water

In the storage of distilled water the best rule is to store small amounts and to use it as rapidly as it is produced; that applies equally to demineralised water. Two types of contamination can occur. Growth of micro-organisms can be avoided only by sterilisation followed by storage under aseptic conditions. A preservative such as phenylmercury nitrate borate may be used to kill micro-organisms present in the water and to prevent subsequent growth, but the presence of compounds of that type is undesirable in many applications.

many applications.

The solvent properties of purified water lead to attack on the container and closure materials during prolonged storage. Metal storage tanks should always be enclosed, otherwise appreciable amounts of suspended matter may appear in the water. Galvanised iron tanks are particularly objectionable, because after a time, when the inevitable corrosion occurs, the water may be discoloured by ferruginous substances. Copper is not used for the storage of purified water, since appreciable amounts of the metal may become dissolved in it. Some kinds of stainless steel are suitable though expensive, but traces of heavy metals are likely to be found in the water after prolonged storage. Large storage tanks can be made by fitting a polythene liner into a metal tank.

Silver-lined condensers have been used for collecting distilled water to be used for injections. The effect of the silver was probably considered an advantage in retarding the growth of micro-organisms between collection and use. Whether that is a real effect when the silver is coated with a film of oxide

or sulphide is not known.

Demineralised water is so free from metal ions that it seems a pity to pollute it by allowing it to come into contact with metal piping or tanks. The development of polythene "plumbing" and containers means that no metal need be used.

From the School of Pharmacy, University of London.

Discussion

Mr. W. P. HUTCHINSON, Oxford, described a method of sterilising water by ∝ radiation. The rays sterilise water circulated round fission products in the form of used uranuum rods.

in the form of used uranium rods.

MR. T. D. WHITTET, London, said that no plant at present available for deionising water was suitable for producing water for injection. Little work had been done in Great Britain on the pyrogenicity of tap water. His own work suggested that London tap water was strongly pyrogenic when unsterilised, but that autoclaving at ordinary time and temperature removed the pyrogenicity. Steaming or bacterial filtration did not.

MR. G. R. WILKINSON, London, asked for Dr. Burman's comments on the radioactivity of potable water. Could he also remark on the factors responsible for the corrosion of aluminium? Volatile materials absorbed by plastic and taken up from it could

cause trouble in storage.

DR. G. E. FOSTER, Dartford, said it was easy for a storage tank cover to become damaged and the water contaminated. It was desirable for water for pharmaceutical purposes to be taken from a tap connected direct to a well. The residual chlorine in water was sometimes estimated by a colour reaction with o-toluidine. How was it possible to overcome the difficulty of making a standard solution of water, which itself took up some of the residual chlorine? In using potable instead of distilled water for any pharmaceutical purposes there was a risk of rendering the final product non-phar-macopæial. Could the use of silverlined stills result in traces of silver being carried into the water?

PROFESSOR H. BRINDLE, Manchester, said that workers on pyrogenicity in Manchester had at one time had difficulty in obtaining any public supply contaminated with pyrogens. At that time there had been no detectable

pyrogens in London water.

MR, R. L. STEPHENS, Brighton, asked what steps were being taken to remove synthetic detergents present in potable water before it was supplied to the consumer? Those materials might cause trouble in pharmaceutical practice, because some of them were incompatible with cationic disinfectants, dyes, etc. Tin linings of condensers were liable to cause contamination of distilled water. How did that occur and how could it be prevented? Plasticisers were not used in polythene except in one variety that was as inert as polythene itself.

Dr. F. Hartley, London, asked whether, if water containing appreciable amounts of sodium fluoride underwent contact with radioactive waste, the liberated fluorides would in any way modify the behaviour of the ion-

exchange resins.

MR. EDWARDS, Harrow, said that a steam-compression still would provide the equivalent of triple-distilled water, using far less heat, and a single distillation would give pyrogen-free water. Pure sterile pyrogen-free water could be obtained from a tin-lined copper condenser.

MR. M. B. BROPHY, Dublin, said that activated carbon could be used for depyrogenising water. The water was double-filtered through a depyrogenising grade of activated carbon, twice glass distilled, and autoclaved. Caution was necessary as to the grade of activated carbon used, in case phosphates might be present. A combination of ion-exchange resins with activated carbon might aid the ion-exchange process. What information was available on the use of ∝ radiation for depyrogenising and sterilising water?

DR. J. H. OAKLEY, London, asked why contamination of distilled water with ammonia occurred mainly in cold weather. The sterilisation of the ionexchange resins by using formaldehyde could have complications, especially if alcoholic preparations for export were made from the distilled water produced in that way, and if the formaldehyde had not been completely removed, since the reaction in the test for the presence of industrial methylated spirit was based on the formaldehyde colour reaction. Back-washing was important in keeping the resins clean. In the double-column system, where the resins were in two separate towers, the bulk of the debris was removed in the first tower, which should have a daily back-wash to get rid of impurities. Back-washing of the other tower was unnecessary, as nearly all the cationic contamination collected in the first.

MR. J. C. HANBURY, Ware, asked Dr. Burman to comment on the effect of afforestation on water supplies. Vegetation attracted water, stored it and rendered it generally available. Deforestation and the spread of built-up areas would have an adverse effect on the water supply position in southern England.

Trace Elements

DR. F. Wokes, King's Langley, said that trace elements were present in small quantitics in water, but were accumulated in the bones and might be liberated and to some degree become responsible for illness. Toxic elements had been suggested as a possible causative factor in disseminated sclerosis. Regarding the use of water as an extractant in pharmaceutical processes, e.g. in preparing malt extract, the rate of extraction had been shown to vary with the type and especially the pH of the water used.

Dr. W. Anderson, Liverpool, said the problems of pyrogens in deionised water would not be solved until a method was found of removing all colloidal matter, which protected the

pyrogens from deionisation.

MR. J. W. HADGRAFT, London, referred to the contamination of distilled water with traces of nickel. That was not easily detected by the British Pharmacopæial test for heavy metals, but gave an immediate appreciable reaction with sodium hypochlorite solution, which was capable of detecting the presence of nickel in concentrations below 0.5 p.p.m. The ability of certain organisms to exist in potable water was important in non-sterile prepara-

tions for oral administration. A sample of barium meal which smelled strongly of hydrogen sulphide was found on bacterial examination to be contaminated with a sulphate-splitting organism capable of existing in a simple suspension of barium sulphate in distilled water.

MR. J. L. LIVINGSTONE, London, asked about the pitting of vessels used to hold water which had passed through copper pipes. He said that polythene tubin was permeable to gas, and so might be responsible for the contamination of water.

Dr. J. G. Dare, Lecds, asked what was the pH of the London tap water used by Mr. Whittet, and what was its buffering capacity?

MR. E. W. RICHARD, Upminster, asked whether any water authorities installed softening plant. Would that be an economical proposition for the cumular and consumer? supplier and consumer?

Professor J P. Todd, Glasgow, said that pyrogen must not be confused with pyrogenic reaction. Water had a molecular weight of 18 and boiled at 100° C. That was one of the safeguards of the preparation of water injection. Distillation was the other. Water purified by ion-exchange methods needed more investigation before it was suitable for injection into the human body. It was a "potential bank of toxins."

Dr. Burman, replying, said the Metropolitan Water Board's only knowledge of the pyrogen content of London water came from Mr. Whittet. He had no knowledge of sterilisation by α rays, and was not aware of any research by those methods having been undertaken by the Board. He had no experience of corrosion of the highly purified grades of aluminium used for extruded tubes. Pitting of copper vessels was due to traces of other metals. The authority had no control over the covers of storage tanks, but a better standard could be devised for

them. To obtain a standard colour in the o-toluidine reaction, it was necessary to use a high-quality distilled water for diluting the standard solution. The contact tanks between chlorination of the water and the supply to the con-sumer would completely deviate chlorine from river waters, but would not remove it from deep well water. He pointed out that there were certain silver-impregnated filters on the market, and any silver in the water obtained from them was undetectable.

Sulphate-reducing Organisms

Sulphate-reducing organisms present in dry soils could, under anaerobic conditions, reduce sulphate in the presence of iron, producing ferrous sulphide and resulting in corrosion of pipes. Those organisms would grow in very simple solutions, and presented a big problem in some areas. Cooling water from power stations caused a certain amount of deoxygenation. Chemical effluents could often be more serious than bacterial pollution. question was now in the hands of the River Boards, who had now much greater powers to combat pollution.

Continual pumping from deep wells was reducing the level of available supplies, especially in southern England. Experiments were taking place to recharge the underground wells in winter, when there were ample supplies available from other sources, by pumping filtered river water into them.

Polythene tubing could readily absorb coal-gas if there were a source (e.g., a gas leak) nearby. It could give it off continually for some time afterwards.

The cost of installing softening plant to deal with the whole of London's water supply would increase the cost of the water by about 50 per cent., and the number of people who would benefit was limited. The use of deter-gents made it less necessary and so increased the proportionate expense.
Polluted water contained ammonia

and ammonium salts; in warm weather, especially where sand was used in filtration, the ammonia was oxidised rapidly, but only if the temperature of

The water was about 4° C.

The water supply was becoming a big problem in south-eastern England, and the long-term effects of afforestation were advantageous.

No routine observations had been made on trace elements in minute quantities. Certain amounts of synthetic detergents remained in potable water, but at the present level of use of detergents they were negligible.

DR. E. SHOTTON, replying, said he had not heard of low-pressure steam being used to any extent as a medium for pharmaceutical purposes. He would not normally advocate silver-lined plant. It would not be necessary for most purposes. He had experienced the occurrence of sulphate-reducing organisms in a solution of aluminium phosphate.

He would not as yet advocate the use of deionisation to produce water for injection, but a useful technique

might be evolved in the future.
Charcoals were variable, and many contained high quantities of obnoxious metals; columns containing them could still be dangerous, in that bacteria might grow in water that had passed through them. Distillation was still at present safest for injection water. All formaldehyde must be removed from deionised water before it was used for pharmaceutical purposes. He had never known tin-lined vessels to give bad results, and could not account for stannous salts found in water.

immersion-electrode heater had been recently applied to small-scale stills advocated for hospitals, etc., but their cost would be high. He had not come across the use of steam-compression stills for the production of distilled water.

Dr. Saunders also replying, said that in sterilisation by ion-exchange columns, a more suitable material than formaldehyde should be found. No plasticisers were necessary in polythene tubing. The British Pharmacopœia test for heavy metals in water should be modified so that each metal was tested for with a sensitive reagent.

Correspondence

Letters when received must bear the name and address of the sender, not necessarily for publication. The Editor does not hold himself responsible for the views expressed.

Hospital Pharmacists' Salaries

SIR,—The salaries offered to hospital pharmacists are for services done for the hospital's internal organisation, not for out-patient dispensary work. The sooner that work is dropped, the sooner they will be better off financially. COUNTERMOVE

Better Off Without It?

Sir,—Any pharmacist doing less than 400 prescriptions per month would be healthier, wealthier and wiser if he abandoned it and took fast-selling window and counter lines into stock. He would not then be putting more money into slow, dead stock with no means of disposing of so-called ethicals in broken packs. He would need less staff and fewer hours, and gain more remuneration for an eight-hour day, 5½-day week, with even a month's holiday and no locum to pay if he locked his poisons up for a month. Age 54

Faith and Physic

SIR,—One of the most successful and most charming doctors I have met during fifty years in pharmacy once said to me: "The longer I continue in practice the more I realise that the majority of my patients need a parson, not a physician; they are sick in their souls, not in their physical bodies." In this neurotic age, when more than 50 per cent. of our National

Health Service prescriptions are for phenobarb. and sedatives, we pharmacists come in daily contact with scores and scores of people who are "sick in their souls." Even many practising National Health practitioners are neurotic, so we have a National Health Service in which "the blind are lead-ing the blind." What we suffer from is lack of faith in modern medicine.

IN CORPORE SANO



"COUNTY" CRICKET FEAT AT EXHIBI-At the Lucozade-Brylcreem County Laboratories, Ltd., at the Hulton Boys' and Girls' exhibition, Olympia, London, recently, Peter Phillips, a thirteen-year-old schoolboy from Paddington, twice took the wicket of Denis Compton (England and Middlesex batsman). For the feat he gained 10s, from Compton and some free coaching from bowlers Laker (Surrey and England) and Statham (Lancashire and England).



We are proposing to move our existing dispensary from the position indicated in the rough diagram I enclose and to place it in what is now a stockroom. The second stockroom shown will be converted into dispensary storage space, and the partition between the dispensary and the passage (marked "staff" entrance on diagram) will be removed, as will the one between dispensary and shop. Additional space for bottles, etc., would be provided by covering the outside passage. That is our idea so far as it goes, but it has certain drawbacks. We would be obliged if you would give us the benefit of your experience by providing us with a working diagram incorporating any ideas you may have, particularly with regard to the actual fittings for the dispensary.

In working from the rough plan you supplied I am unfortunately unable to make certain dimensions tally one against the other on opposite sides of the various rooms and in consequence my proposed plan cannot be anything more than generalisations. The existing stairs in what is now your present dispensary makes that area very narrow, and there is nothing one can do to overcome the difficulty. It is hoped, however, that the adjoining drawing may be of some assistance in enabling you to make a satisfactory arrangement. The dispensary has been moved back one room as you suggest, and a dispensing bench, with sink at one end, has been fitted on the left hand and return walls. That may mean a waste

return walls. That may mean a waste pipe being run along the stockroom wall and out into the yard beyond. Dispensary fittings have been worked in and around the fireplace on the right-hand wall. They would consist of the usual open-locker fittings, cupboards, etc. There is ample free space in the dispensary, and you might, if you so wished, introduce a centre table or bench. The extended shop (incorporating what is now your dispensary area) has been treated as shown on plan. There are stock fittings on the lefthand wall and on the stairs, and in front

of the stairs is an extended threesection counter, the centre section being splayed as shown. If desired, they could be three separate counters with gangways between, but as you do not indicate any counters on your existing rough layout I am not certain what existing fittings you may have that could be reused. On the wall facing the stairs, a long shallow showcase is indicated, with a further small showcase facing down the shop and adjoining the door leading to the outside passage. On the back of the right-hand window enclosure a deeper showcase is shown. There is ample room backing upon the front window enclosure to instal, if you wish, a baby-scale table and weighing machine.

I am removing my dispensary to the back room and refitting. I am in doubt whether to use teak, mahogany, or Formica for the top of the dispensing bench. Which in your opinion is the most suitable for the purpose? I am somewhat conservative and like wood, but am advised that Formica is better.

For the tops of the dispensary benches I would recommend either teak, a close-grained oak, or a good-quality mahogany. Of the three teak is, in my opinion, to be preferred as it gives you good service while retaining its appearance. Plastic veneers are pleasing and bright in a dispensary, but

my own experience has been that they do not stand up to certain acids. acids are spilt on the plastic top the colour goes, and the surface then looks patchy and disfigured. It is possible to have plastic veneer tops on part of a bench top, with either lead or stainless steel on the remainder, so that any acid work may be carried out within that restricted area. There is much to be said for Formica and similar types of plastic veneers. Their possible uses in a pharmacy are many and varied and the range of colours in which they may be obtained makes for a decorative and gay result. My own opinion is, how-ever, that they are better used in the shop as decorative counter tops or counter-front facings, or as veneers for wood sliding-doors of stock fittings, etc., where their decorative character comes into play, than in the dispensary. Where horizontal working surfaces such as bench tops, etc., are concerned I think teak would serve you better.

Have you a shopfitting problem? Write to James Grimm c/o The Editor.



Abdominal Aortography

MAY & BAKER, LTD., Dagenham. Colour with sound, 16-mm. Twelve minutes.

THE film shows a technique for visualisation of the abdominal aorta and iliac and renal arteries as demonstrated at the David Lewis Northern Hospital, Liverpool. Equipment is described and explained and the technique of injecting the radiopaque medium Diaginol 70 per cent. percutaneously is demonstrated. Examples are shown of the resulting radiographs. For more detailed study a filmstrip is available, showing aortograms depicting abnormalities.

Artificial Respiration

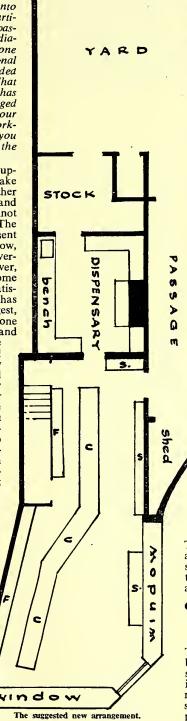
FILM LIBRARY, I.C.I., LTD., Imperial Chemical House, Millbank, London, S.W.1. Catalogue No. FA4. 16-mm, Eleven minutes.

THE Schafer and Holger Neilsen methods of artificial respiration are described and demonstrated. The combined method with two operators, and the use of the Novox apparatus, are also shown in the film.

Control of Hæmorrhage

FILM LIBRARY, I.C.I., LTD., Imperial Chemical House, Millbank, London, S.W.1, Catalogue No. FA6. 16-mm. Seven minutes.

THE theme of the film is that pressure controls bleeding. The company's general-chemicals division medical officer emphasises the point in an introduction to the film, and the various methods of application of pressure are then shown on patients. The important pressure points are demonstrated.



NOTES ON NEW PRODUCTS

Comments on items given in Gnide to New Medicaments, especially to show their relationship—pharmacological or chemical—with other products or compounds,

NYDRANE.—An anticonvulsant differing chemically from associated drugs, as it is a straightchain compound. It does not cause drowsiness. Drugs with a similar action, but with a cyclic structure, include phenobarbitone, phenytoin (Epanutin, Eptoin), primidone (Mysoline).

DIBENYLINE, — Also known as phenoxybenzamine. An adrenolytic drug, effective orally. The action is prolonged (a sharp distinction from other vasodilators) and the drug is effective in peripheral vascular disorders such as Raynaud's disease as well as in phacochromocytoma. Other vasodilators include Opilon, Rogitine, Perdilatal and Priscol (tolazoline).

TERTROXIN.—Thought to be the compound into which thyroxinc is eventually converted in the body, and to be the therapeutically-active form of the hormone, the action of the drug is more rapid than that of thyroid or thyroxine, and control of dose and effect easier to achieve. Where a rapid stimulation of the metabolic rate is important, the new compound has advantages over older forms of the thyroid hormone.

AMERICAN APPROVED REMEDIES

Products accepted by the American Medical Association's Council on Pharmacy and Chemistry for inclusion in the list of "New and Nonofficial Remedies":—

AMINOMETRADINE — 1-Allyl-3-ethyl-6aminotetrahydropytimidinedione. Aminometradine, a synthetic uracil derivative, produces an
increased flow of urine after oral administration. Like acetazolamide and the xanthines,
the drug has only minimal diuretic effects in
normal, nonoedematous individuals. Aminometradine is an effective agent for the treatment of oedema in patients with congestive
heart failure. The drug has also been of value
in certain other conditions characterised by
oedema, Proprietary name: Mictine, Data supplied by: G. D. Searle & Co.

DYCLONINE HYDROCHLORIDE.—4'-Butoxy-3-piperidinopropiophenone hydrochloride, Dyclonine hydrochloride, a topical anæsthetic agent, differs from most drugs of that pharmacological class in that it does not contain the ester or amide linkage typical of compounds such as procaine. Its systemic toxicity is low. The drug is usually an effective anæsthetic agent when applied topically to the skin or mucous membranes, and is useful in dermatological practice for the treatment of skin conditions in which relief of pain and pruritus is desired. It also may be used for the symptomatic treatment of minor burns and minor trauma, for relief of post-operative discomfort such as occurs after episiotomy, and for symptomatic management of pruritus and or vulvae, The drug also has been used to anæsthetise mucous membranes prior to instrumentation. When installed into the conjunctiva, it affords anæsthesia without producing miosis or mydriasis. Proprietary name: Dyclone, Data supplied by: Pitman-Moore Co., Division of Allied Laboratories, Inc.

N.H.S. STATISTICS

In Salford during 1955-56, the average cost per prescription was 45.99d.

In Argyll and Bute during 1955–56, the pharmaceutical services cost 17s. 11\frac{1}{2}d, per head of the persons on doctors' lists, while the average cost per form was 6s. 2d. The total cost of the Health Service was £15,603 more than in 1954–55. The number of persons on doctors' lists was 71,413, a fall of 443.

GUIDE TO NEW MEDICAMENTS

Information about proprietary products supplied principally on prescription. Reprints on perforated gummed paper for affixing to index cards are obtainable.

THE CHEMIST AND DRUGGIST Guide to New Medicaments (September 29, 1956).

CIROTYL

MANUFACTURER: Parke, Davis & Co., Ltd., Staines Road, Hounslow, Middlesex.

DESCRIPTION: A cherry-flavoured, liquid, laxative preparation, each teaspoonful (4 c.c.) of which contains 1:66 mgm. of diacetoxydiphenylisatin (a synthetic derivative of prunes).

INDICATIONS: Correction of occasional or habitual constipation and prevention of constipation during convalescence or during treatment involving enforced dietary restriction or physical inactivity.

Dosage: Infants, $\frac{1}{4}$ — $\frac{1}{2}$ teaspoonful; Children aged 2–5 years, $\frac{1}{2}$ —1 teaspoonful; Children aged 5–10 years, 1–2 teaspoonfuls; Older Children and Adults, 1–3 teaspoonfuls. Evacuation usually occurs in 6–8 hours or on the morning following a bedtime dose. When necessary, the doses stated may be repeated within twenty-four hours or doubled the following day.

How Supplied: In bottles of 4 and 80 fl. oz. First Issued: August 21, 1956.

THE CHEMIST AND DRUGGIST Guide to New Medicaments (September 29, 1956)

DIBENYLINE*

MANUFACTURER: Menley & James, Ltd., Coldharbour Lane, London, S.E.5.

DESCRIPTION: A long-lasting adrenomotor antagonist, N-phenoxyisopropyl-N-benzyl-β-chlorethylamine hydrochloride.

INDICATIONS: Raynaud's phenomenon; obliterative arterial disease; erythrocyanoid conditions, hyperhidrosis; causalgia; phaeochromocytoma; imminent eclampsia; chilblains; essential hypertension.

Dose: Initial dose 10 mgm. daily, taken in late evening. Dose is progressively increased until response is adequate. Normal dose: 10-30 mgm. three to four times daily, depending on the patient's response. Where a local effect in a limb is required, parenteral administration may be preferred.

How Supplied: In containers of 100 and 1,000 10-mgm. capsules; or in container of 10 gm. pure powder (for preparing parenteral solutions).

FIRST ISSUED: June 21, 1956.

REFERENCE: Nickerson and others, J. Pharmacol, 1953. 107, 300.

*Cross reference for card index:

PHENOXYBENZAMINE: See Dibenyline.

THE CHEMIST AND DRUGGIST Guide to New Medicaments (September 29, 1956)

RESERBAL

MANUFACTURER: Gedeon Richter (Great Britain), Ltd., 14 Weedington Road, London, N.W.5.

DESCRIPTION: Tablets, each containing ergotamine tartrate, 0.3 mgm.; *l*-alkaloids of belladonna, 0.1 mgm.; and reserpine, 0.2 mgm.

INDICATIONS: Psychosomatic manifestations such as anxiety-neuroses and mental tension; as prophylactic in migraine, dysmenorrhæa and pre-menstrual tension; menopausal disorders, neurodermatitis, and nervous asthma.

DOSAGE: Suggested initial dose: 1–2 tablets, three times daily, reduced according to response.

How Supplied: In containers of twenty-five, 100 and 250.

FIRST ISSUED: June 2, 1956.

THE CHEMIST AND DRUGGIST Guide to New Medicaments (September 29, 1956)

THEVILINE

MANUFACTURER: Rona Laboratories, 12 Molyneux Street, London, W.1.

DESCRIPTION: Tablets each containing 0.25 mgm., and 2-c.c. ampoules, each containing 1 mgm. pure crystalline thevetine.

INDICATIONS: Chronic heart disease, dyspnæa of effort, tachycardia, mitral stenosis, particularly when intolerance or toxic accumulation prevents the use of digitalis or ouabain.

Dosage: Oral, 0.5-2 mgm. (2-8 tablets) daily, in divided doses; Parenteral, 1-2 mgm, daily, in divided doses, intravenously.

How Supplied: Tablets, in bottles of twenty-five and 100; Ampoules, in boxes of six and fifty.

First Issued: June 1956.

Introducing 'migril' for



- Dispels headache
- Disperses visual disturbances
- Defeats nausea and vomiting

A new product—'Migril'—provides, for the first time, a successful 3-way attack on migraine.

'Migril' contains ergotamine tartrate (2 mgm.), caffeine (100 mgm.) and cyclizine hydrochloride (50 mgm.) in each tablet. The inclusion of cyclizine hydrochloride not only eliminates the nausea and vomiting often associated with migraine but also enables larger and more effective doses of ergotamine to be administered.



Ergotamine Compound (Compressed)
PACKS OF 10 AND 100



BURROUGHS WELLCOME & CO. (THE WELLCOME FOUNDATION LTD.) LONDON



OSTERMILK

TRADE MARK

No. 1 Fat-modified; No. 2 Full-cream; both containing added iron and vitamin D. In 1 lb. tins. Face price 3/9; Trade price 40/- per dozen, special parcel terms available



GLAXO LABORATORIES LTD., GREENFORD, MIDDLESEX. BYRon 3434

GUIDE TO NEW MEDICAMENTS (concluded from p. 366).

SERPATONIL

MANUFACTURER: Ciba Laboratories, Ltd., Horsham, Sussex.

DESCRIPTION: Antihypertensive tablets, each containing 0·15 mgm. Serpasil (reserpine) and 5 mgm. Ritalin (phenyl-(∝-piperidyl)-acetic acid methyl ester hydrochloride).

INDICATIONS: Long-term maintenance therapy in hypertension, particularly for patients who experience drowsiness or lethargy during rauwolfia therapy.

DOSAGE: 1 tablet three times daily. Dose may be reduced in many cases to 1 tablet twice daily. New patients should begin with 0.75-1 mgm. Serpasil daily for two weeks before changing to Serpatonil.

How Supplied: In bottles of twenty-five, 100 and 500.

FRST ISSUED: June 4, 1956.

THE CHEMIST AND DRUGGIST Guide to New Medicaments (September 29, 1956)

NYDRANE

Manufacturer: Rona Laboratories, 12 Molyneux Street, London, W.1.

Description: Tablets each containing 500 mgm. n-benzyl-β-chloropropion-amide.

INDICATIONS: Grand mal and psychomotor epilepsy.

Dosage: Adults, 1-2 tablets three or four times daily with meals and on going to bed, generally supplemented by other anticonvulsants. Children under twelve: dosage may average 4 tablets daily.

How Supplied: In bottles of fifty and 250, and in tins of 1,000 tablets.

FIRST ISSUED: June 1956.

REFERENCE: Harned and others, J. Pharm. exp. Ther., 1953. 107. 403.

THE CHEMIST AND DRUGGIST Guide to New Medicaments (September 29, 1956)

ARGOTONE ophthalmic

MANUFACTURER: Rona Laboratories, 12 Molyneux Street, London, W.1.

Description: 0.9 per cent, isotonic sodium chloride solution containing 0.1 per cent, ephedrine hydrochloride, B.P., and 1 per cent, silver vitellin, B.P.C., buffered to conform to the ph of the lachrymal fluid.

INDICATIONS: Marked ciliary congestion, conjunctivitis, and certain eye infections.

Dosage: 1-3 drops to be instilled into each eye subconjunctivally.

How Supplied: In 10-c.c. bottle complete with eye dropper.

FIRST ISSUED: June 1956

THE CHEMIST AND DRUGGIST Guide to New Medicaments (September 29, 1956)

TERTROXIN

MANUFACTURER: Glaxo Laboratories, Ltd., Greenford, Middlesex.

DESCRIPTION: Tablets, each containing 5 or 20 microgm. of sodium *l*-triiodothyronine.

INDICATIONS: Treatment of the hypometabolic state with its varied manifestations including obesity, skin disorders, retardation of growth and development; gynæcological conditions; and the slowed metabolism of old age, especially where a rapid, intensive response is required.

Dosage: According to age, condition and response, 10-100 microgm. daily, divided into two or three doses.

How Supplied: In bottles of fifty and 500 tablets. First Issued: June 1956.

THE CHEMIST AND DRUGGIST Guide to New Medicaments (September 29, 1956)

CORTRIL snuff

MANUFACTURER: Pfizer, Ltd., 137 Sandgate Road, Folkestone, Kent.

DESCRIPTION: A powder containing 15 mgm, hydrocortisone alcohol in a lactose base.

INDICATIONS: Hay fever and other allergic conditions of the nasal mucosa.

DOSAGE: The powder should be insufflated three times daily, using an Armour inhalator or an ordinary insufflator.

How Supplied: In bottles of five and twenty-five capsules.

FIRST ISSUED: June 13, 1956.

REFERENCES: Herxheimer and McAllen, Lancet, 1956. 1.537.

WORLD TRADE

Mercury Mine Output Increases. — The second 80-ton unit of the Palawan Quicksilver Mine's reduction plant in Palawan (south-western Philippines) has started operations on a production basis.

Higher Dutch Chemical Exports. — According to figures published by the Netherlands Central Bureau of Statistics, the value of Dutch exports of chemical products rose to 415.5 million florins in the first half of 1956 from 361.8 million florins in the corresponding period of 1955.

East German Chalk Production. — East Germany expects to produce about 750,000 tons of chalk a year at the Baltic Isle of Ruegen after three projected new pits have been completed by 1960. Three pits at Klementalvitz are to be joined into one enterprise which is expected to produce 200,000 tons of chalk a year. A new thermal drying plant is to be built.

German Chemical Works Loan. — The Chemische Werke Huels is to float a loan of Dm. 40 millions for modernisation of its plants. The rate of interest is eight per cent., and the issue price 98 per cent. The loan is to run for not more than twenty years, Several big West German loans of this type have been floated recently and all are reported to have been fully subscribed.

Thai Exports in July. — Exports of castor seed during July totalled 50 tons against 566 tons during June, with Japan taking the whole quantity. Gum damar increased to 118 tons compared with 61 tons the previous month. Of that, India took 56 tons, Singapore 42, and the United Kingdom 5. Exports of gum benzoin were only 2 tons, with the United States and Germany taking one each.

West German Chemicals Sales.—The West German chemical industry in the first half of 1956 sold goods to the value of Dm 7,340 millions, or about Dm 640 millions more than in the first half of 1955, according to the Federation of the West German Chemical Industry Association. The rate of increase was 9.5 per cent., and approximately corresponded to the increase in production. Exports amounted to Dm 1,820 millions in the same period of the present year, against Dm 1,630 millions in the corresponding period of 1955. Imports increased by 11.5 per cent. to Dm 640 millions.

South African Duty Rebates. — Rebates of South African import duty are to be allowed on glass tubing and certain chemical products taken out of bond by registered manufacturers for use by specified local industries. The rebate on glass tubing for use by manufacturers of laboratory apparatus and equipment will be 20 per cent., while a rebate of 10 per cent. will be allowed on a list of chemicals to be used by the industry for the manufacture of synthetic resino, synthetic resinous emulsions and synthetic resinous solutions. The chemicals listed are: Toluol, vinyl-acetate monomer, polyvinyl alcohol, tricresyl phosphate and dibutyl phthalate.

TRADE REPORT

The prices given are those obtained by importers or manufacturers for bulk quantities or original packages. Various charges have to be added whereby values are in many instances augmented before wholesale dealers receive the goods into Crude drugs and essential oils vary greatly in quality and higher prices are charged for selected qualities.

London, September 26: The fluid state of prices in the Pharmaceutical CHEMICALS market was emphasised during the week when some manufacturers announced, for the second time in one month, reductions in the prices of IODIDES; another manufacturer was considering making further adjustments in his list as this report was prepared. A certain amount of undercutting has been taking place in a number of other commodities as well, and the general opinion is that several months must elapse before the market again becomes stable.

The reductions mentioned included POTASSIUM IODIDE (down by threepence per lb.), SODIUM IODIDE (down five-pence per lb.), and RESUBLIMED IODINE (down twopence per lb.). IODOFORM prices were unchanged.

In the CRUDE DRUGS market, the parcel of Canada Balsam mentioned last week was quickly bought up, and little or no material appears to be left on the spot. Inquiry continued for Liquorice natural root, with only a little Anatolian offering at 47s. 6d. per cwt. Whilst Chinese MENTHOL prices were un-changed on the spot, a tight position is developing in close-at-hand material; meanwhile Brazil is offering no menthol for shipment. Nicaraguan IPECACU-ANHA was quoted on the spot after an interval of several weeks, Spot CASCARA SAGRADA was still cheap compared with its replacement value. Jamaican GIN-GER was a little firmer, but PEPPERS were lower on the week's trading. The various grades of new-crop Tinnevelly SENNA LEAVES and PODS are now being quoted at levels which are slightly above those of last year. During August there were heavy shipments of senna from Tuticorin as below:-

	U.K.	U.S.	Continent
SENNA	Tons	Tons	Tons
LEAVES	 16	60	159
PODS	 9	3	49

There were few price changes among ESSENTIAL OILS. Stocks of Ceylon CIT-RONELLA were unobtainable on the spot, though a parcel near at hand was offered at 6s. 3d. per lb. Formosan oil became considerably firmer, with shippers asking upwards of tenpence per lb. more than last week for prompt shipment

EXCHANGE RATES ON LONDON

At the o	pening on W	ednesday
*Alexandria .	Piastres to £	971-971
Amsterdam .	Florins to £	10.56-10.72
*Bombay	Shillings to	
	rupce	1/515-1/616
Brussels	Francs to £	138-95-141-05
Copenhagen	Kronor to £	19.191-19.481
Dutch West		
Indies	Florins to £	5.26-5.29
*Hong Kong	Shillings to \$	1/213-1/215
*Karachi	Shillings to	
	rupee	1/515-1/67
Lisbon	Escudos to £	79-90-81-10
*Montreal	Dollars to £	2.72 1 -2.72 3
New York	Dollars to £	2.78-2.82
Oslo	Kronor to £	19-85-20-15
Paris	Francs to £	972-6-987-3
Stockholm	Kronor to £	14.37 { -14.59 }
*Singapore	Shillings to \$	$2/3\frac{7}{8}-2/4$
Zurich	Francs to £	12.15 16-12.33
*Free market ra	ates; remainder	Bank of England
Bank rate rose	to 51 per cent.	on February 16

Pharmaceutical Chemicals

ACETANILIDE.—1-cwt. lots are 2s. $9\frac{1}{2}d$. per lb. for crystals and 5-cwt., 2s. $8\frac{1}{2}d$. Powder is 1d. per lb. more.

ACETIC ACID. — B.P. glacial in 10-ton lots is £97 per ton naked and technical, £91. Carboys are £8 and demijohns £10 per ton extra.

ADRENALINE. — Rates for synthetic B.P. are from 1s, 3d, (500-gm, lots) to 1s, 9d. (10 gm.) per gm, and acid tartrate, B.P., from 10d, to 1s, 2d.

ALOIN.—In 7-lb. lots the price is 22s. pei lb. and in 14-lb., 21s. per lb.

AMIDOPYRIN. - Minimum price (5-cwt. lots) is 22s. 8½d. per lb., with usual differential for smaller lots.

AMPHETAMINE. — Base is now 170s. per kilo for 5-kilo lots and 180s, for 1-kilo; sulphate is 140s, to 150s, and *d*-amphetamine sulphate, 450s, to 455s, for similar

AMYLOBARBITONE. — B.P.C. is 65s. per lb. for 1-cwt. lots and sodium, B.P.C., 70s. per lb.

CAFFEINE.—Prices for 1-cwt. or 50-kilo lots are as follows:-

CAFFEINE	lb.	kilo
	 s. d.	s. d.
MONOHYDRATE	 18 7	41 0
ANHYDROUS	 19 0	42 0
CITRATE	 12 3	27 0

CINCHOPHEN.—1-cwt. lots are quoted at 21s. per lb.

IODIDES.--Current quotations (per lb.) include the following:

IODIDE		28-1b.	1-cwt.	5-cwt.	
		s. d.	s. d.	s. d.	
POTASSIUM		12 6	12 0	11 7	
SODIUM		15. 11	15 0	14 6	

Packing charges for smaller lots range from 2d. to 2s. 2d. per lb.

IODINE.—Resublimed is 15s, 3d. per lb. in 1-cwt, lots. Minimum delivered rate for CRUDE is 22s. 4d, per kilo.

IODOFORM.—Powder is 24s, 6d, poin 1-cwt. lots and crystals, 27s, 6d.

MAGNESIUM PEROXIDE.—Price (per lb.) for 1-cwt, lots of B.P.C. (15 per cent.) is 3s. 11d.

PARALDEHYDE. — In 40-gall, drum lots are stabilised is 163s, per cwt. and the technical, 136s.

PILOCARPINE. ocarpine. — In 2½-kilo lots prices hydrochloride, 899s. per kilo; NITRATE, 819s.

PIPERAZINE.—CITRATE is offered at 30s. per lb.

POTASH, SULPHURATED. is 2s. 4d. per lb. in 1-cwt. lots.

POTASSIUM BICARBONATE. — B.P. powder is 110s. per cwt. for 1–4-cwt. lots and 105s. per cwt. for 5-cwt. and over.

POTASSIUM BROMATE.—In 5-cwt. lots the price is 5s. 3d. per lb.

POTASSIUM HYDROXIDE.—B.P. sticks are from 6s. 6d. per lb.; technical, flake.

POTASSIUM SULPHATE.—1-cwt. lots are from 1s. 2d. to 1s. 3d. per lb.

Salicin.—Price quoted is 18s. 6d. per

Santonin. — 25-kilo lots are 745s. per kilo.

Sodium bromate.—1-cwt. lots are quoted at 9s. 9d. per lb.

SODIUM PERBORATE. — Prices (per cwt.) are 145s. 9d. in 1-cwt. kegs; 138s, 3d. in 1-cwt. bags for B.P.C. (minimum 10 per cent. available oxygen). Other strengths pro rata. The PERBORATE MONOHYDRATE testing 15 per cent. available oxygen is 309s. 9d. per cwt.

SULPHACETAMIDE. — Quotations (per lb.) for 1-cwt, lots are 24s, 6d. The SODIUM DERIVATIVE is 30s.

SULPHAGUANIDINE.—Manufacturers' rates for 1-cwt. lots are about 14s, 6d. per lb.

SULPHANILAMIDE.—Manufacturers' rates are from 6s. 3d. per lb.

SULPHATHIAZOLE. — Price (per lb.) for 1-cwt. lots is 16s. 6d.

THEOBROMINE.—Prices for 1-cwt, or 50kilo lots are as follows:-

THEOBROMINE	lb.	kilo
ALKALOID SODIUM SALICYLATE .	s. d. 21 9 16 4	s. d. 48 0 36 0

Crude Drugs

Aniseed (STAR).—Chinese is 125s, per cwt., c.i.f., for shipment. Spot supplies (if available), 135s.

Antimony. — English 99.6 per cent, is £222 10s.; 99 per cent., £210 per ton.

Camphor. — B.P. powder is from 5s. 3d. per lb., duty paid. Tablets, $\frac{1}{4}$ -oz. are 5s. 10d., c.i.f., and 6s. $4\frac{1}{2}$ d., spot.

CAPSICUMS.—East African on stalk are 150s. per cwt. on the spot.

CASCARA SAGRADA.—American 1955 peel is from 290s. to 300s. per cwt., duty paid. Shipment is about 275s., c.i.f.

Cassia Bark. — Whole on the spot is about 85s, per cwt., in bond and for forward delivery, 74s. 6d., c.i.f. Broken 75s., in bond, and 63s., c.i.f.

CHERRY BARK. -Thin natural is from 1s. $7\frac{1}{2}$ d. per 1b., duty paid, and rossed, 2s., on the spot.

CINNAMON.—Ceylon for shipment (c.i.f.) per lb., OOOO, 7s. 2d.; OOO, 7s.; OO, 6s. 10d.; O, 6s. 8d.; firsts, 6s. 5½d.; quillings, 4s.; chips, 10¼d. to 11¼d.

CLOVES.—Zanzibar on the spot are now quoted at 3s. 6d. per lb.; prompt shipment, 3s. $2\frac{3}{4}d.$, c.i.f. Madagascar, 3s. 2d.,

COCHINEAL. — Black-brilliant is 26s. 6d. per lb. on the spot; grey-black, 17s. 6d.; siiver-grey, 16s. 6d.

Cocillana.—Bark is 2s. 3d. per lb. on the spot.

Ergor. — Portuguese old-crop is 7s. per lb., c.i.f., for prompt shipment and 8s., spot; East European, 4s.; Hungarian, 8s. 6d.; American, 6s., all spot.

GALANGAL. — No. 1 root is quoted at 57s. 6d. per cwt., c.i.f.

GENTIAN. - French is 175s. per cwt., on the spot.

GINGER.—African on the spot is 245s. per cwt., with shipment at 230s., c.i.f. Jamaican No. 3, 615s., No. 1, 630s. per cwt., spot; no shipment offers. GUM ACACIA. — Kordofan cleaned sorts on the spot are 141s. per cwt.; afloat, 129s., c.i.f., and shipment, 126s., c.i.f.

HENNA. — Indian is 72s. 6d. per cwt. g/11 on the spot: Egyptian, 70s.

HONEY. — Australian light-amber is 147s. 6d. and medium-amber, 142s, 6d.; Argentine, 145s.; Jamaican, 147s. 6d. to 152s. 6d., all per cwt., on the spot.

Hydrastis.-Root is unobtainable on the spot. Shipment quoted at 28s. per lb., c.i.f.

IPECACUANHA. → (Per lb.). 43s. 6d., spot, and 41s. c.i.f. Matto Grosso, 42s, 6d., spot, and 40s., c.i.f. Nicaraguan, spot, 59s.; shipment at 57s. 6d., c.i.f.

LIQUORICE. — Natural root: Offers of Persian withdrawn. Anatolian, 47s. 6d. per cwt. Block juice is 200s. per cwt. for the Anatolian and 185s. for Chinese and British on the spot. Italian stick from 310s. to 476s. per cwt., duty paid.

MACE.—Whole on the spot is 24s. 6d. per lb.

MENTHOL. — Chinese is 50s, per lb. duty paid. September-October shipment, 45s, 3d., c.i.f. Brazilian, spot. 45s., duty paid.

NUTMEGS. — West Indian 80's are 6s. 6d. per lb.; unassorted, 6s. 2d.; wormy and broken, 5s. 1½d.

ORANGE PEEL. — West Indian bitter quarters are 11d. to 1s. per lb.; Spanish, 1s. to 1s. 3d.

1s. to 1s. 3d.

Pepper.—White Sarawak is 2s. 73d. per lb. on the spot, with October shipment about 2s, 5½d., c.i.f. Black Sarawak is offering on the spot at 1s. 11d. per lb.; afloat, 1s. 9½d., c.i.f. Black Malabar, 275s. per cwt. on the spot; October shipment, 245s., c.i.f.

Peppermint leaves. — Dutch for shipment are offered from 3s. 4d. to 4s. per lb., c.i.f.

PIMENTO. — Spot is 590s. per cwt. with forward at 540s., f.o.b.

Podopyllum. — Emodi is quoted at 145s. per cwt. ex wharf. Peltatum, 475s., landed.

QUASSIA. — Chips are 42s, 6d, per cwt. on the spot.

SAFFRON. — Mancha superior is nominally 300s, per lb. on the spot.

SARSAPARILLA.—Jamaican native red on the spot is 3s. 1½d. per lb., and for shipment, 2s. 10d., c.i.f.

Sassafras.—Select bark is 5s. per lb., on the spot.

SEEDS. — (Per cwt.). ANISE.—Tunisian, unchanged at 210s., in bond; Spanish, 247s. 6d., duty paid. CARAWAY.—Dutch are firm at 150s., duty paid. CELERY.—Indian is dearer with 160s, now quoted on control Computing Section 2009. Indian is dearer with 160s, now quoted on spot. Coriander. — Short on spot, no Moroccan available; Rumanian nominal at 85s., duty paid. Shipment, Moroccan, 80s.; Rumanian, 65s., and Bulgarian smalls, 57s. 6d., all c.i.f. CUMIN. — Steady. Cyprian, 130s.; Moroccan, 135s., duty paid; Iranian, 125s., duty paid. DILL.—Indian, 67s. 6d., spot. Shipment, 54s., c.i.f. FENNEL.—Indian quoted at 95s., spot. For shipment sellers quoting 91s. 6d., c.i.f. FENUGREEK.—Ouieter tone. Morocci.f. FENUGREEK.—Ouieter tone. Morocci.f. c.i.f. Fenugreek.—Quieter tone. Moroccan or Indian on spot quoted at 67s. 6d. Mustard.—English, 60s. to 75s., according to quality.

SENEGA. — Spot is 19s. per lb. with shippers asking 18s. 6d., c.i.f.

SENNA. — New-crop Tinnevelly LEAVES (per lb.) are: Prime bold, 1s. 6d.; prime No. 1, 1s. 3½d.; prime No. 2, 1s. 1d.; prime No. 3, 9½d. pops, f.a.q., 8d., spot (7d., c.i.f.); hand-picked, 1s. to 1s. 9d. Alexandrian manufacturing pods, 10d. to 1s. 3d.; hand-picked, 5s. 3d. upwards, as to civality. to quality.

SHELLAC. — F.O.T.N., 330s. per cwt.; F.O. No. 1, 345s.; fine orange, 360s. to 410s.

TURMERIC. - Madras finger on the spot is 90s, per cwt, with September-October shipment quoted at 80s., c.i.f.

Essential and Expressed Oils

Almond.—B.P. imported oil is 10s. 6d. per lb.; British, 13s. to 13s. 6d.

AMBER.—Rectified on the spot quoted at from 1s. 6d. per lb.

Angelica. — From seed, 285s, per lb. From root, 540s.

ANISE.—Chinese, 14s. 3d. per lb., spot, 13s. 3d., c.i.f.

BAY. - West Indian is 10s. 6d. per lb. on the spot.

BERGAMOT. - Spot quotations are now 68s, per lb.

BIRCH TAR.—Rectified is about 14s. per lb. in 1-cwt. lots.

Bois DE Rose.—Brazilian is 26s. 6d. per lb. on the spot and 25s. 9d., c.i.f.

CADE. - Spanish is 3s. 9d. per lb. for drum lots.

CAJUPUT. - Spot supplies are from 13s. 6d. per lb.

CAMPHOR, WHITE. — Chinese is 2s. 1d. per lb., duty paid.

Cananga.—Spot is from 54s. to 58s. per lb.

CARAWAY. — English-distilled is offered at 55s. and imported from 27s. 6d. to 28s. 6d. per lb., duty paid.

CARDAMOM. — Price per lb. is from 360s. for English-distilled and from 265s. to 270s, for imported.

CASSIA. — Original drums are about 13s. 6d. per lb. on the spot. Shipment, 13s., c.i.f.

Castor.—Minimum 2-ton lots of pharmaceutical quality £146 per ton, naked ex mill, spot delivery.

CEDARWOOD, — 1-cwt. lots of American are 6s. 6d. per lb., and Kenya, 5s. 9d.

CELERY SEED. — Oil is 95s. per lb. for bulk lots.

CHAMOMILE. — English oil is offered at from 240s. to 256s. per lb.

CHENOPODIUM. — Shipment rates have dvanced. Nominal value 42s, per lb. advanced. landed.

CINNAMON. — From quillings, English-distilled is quoted at 30s, per oz. Other B.P. oils available down to 90s, per lb. Ceylon leaf, crude, 14s. 6d.; rectified, 27s. 6d. per lb., spot.

CITRONELLA.—Ceylon, afloat 6s. 3d. per lb.; forward shipment, 5s. 9d., c.i.f. Formosa for shipment is from 6s. to 6s. 10d., as to position.

COD-LIVER.—B.P. is 11s. 6d. per gall. in charged returnable drums. Veterinary, is from 9s. 6d. per gall.

CORIANDER. — Russian-seed oil is quoted from 77s. 6d. per lb.

CUBEB. — Spot price is from 57s. 6d. per lb.

CUMIN, — Quotations for English-distilled oil are about 102s, per lb, and imported 57s. 6d.

Eucalyptus.—Australian 70 to 75 per cent. eucalyptol on the spot is 5s, 8d, per lb.; 80 to 85 per cent., 6s, 4d. Spanish 70 to 75 per cent. at 4s, 11d., duty paid. Chinese type, 4s, 9d., duty paid.

GARLIC.—English is 55s. per oz., on the

GERANIUM.—Bourbon is from 92s. 6d. per lb. on the spot and Algerian, 77s. 6d.

GINGER. — English-distilled oil is 205s. per lb. Imported oils are 165s, for Jamaican and 87s, 6d, for Chinese, duty paid.

Grapefruit. - Jamaican is 16s. 6d. per lb.; South African 12s.

HYDNOCARPUS. — Spot is about 2s. 2d. per 1b.

JUNIPER BERRY. — Czechoslovakian oil (B.P.C.), 15s. 6d. per lb. and Jugo-Slavian, 14s. on the spot. English-distilled is 155s.

LAVANDIN.—Spot is from 12s. to 15s. per lb. as to quality, for original drums.

LAVENDER. — French shippers asking from 80s, to 120s, per lb, for best newcrop oil.

LAVENDER SPIKE. — Firm, Spanish is offered from 14s, 6d, to 15s, per lb. on the spot.

LEMON.—Prices of B.P. oil (4 per cent. citral) vary greatly on the spot according to quality and range between 25s, and 40s. per lb. Californian, 28s. 6d. to 36s. 4d., c.i.f., as to quality, subject to licence. licence.

LEMONGRASS. — Spot is 11s. 3d. to 11s. 6d. per lb.; afloat, 11s., c.i.f.; October shipment, 10s. 6d., c.i.f.

LIME.—Supplies of West Indian distilled are offered from 35s. to 36s, per lb. on the spot.

OLIVE OIL. - B.P. is offered at 32s, 6d. per gall, on the spot.

ORANGE.—Spot quotations of sweet oil ORANGE.—Spot quotations of sweet oil include Floridan at 3s. 11d. per lb.; Californian, 5s. 6d.; West Indian, 7s. 6d.; South African, 7s. 6d. For shipment, proprietary brand Californian sweet is 6s. 1\frac{1}{2}d., c.i.f., and cold-pressed, U.S.P., 9s. 4d., c.i.f. Terpeneless is 200s. per lb., spot, and bitter, 20s. per lb.

PATCHOULI. — Penang is 35s., duty paid, and 27s. 6d., c.i.f.

PEPPERMINT.—Arvensis: Chinese is 30s, per lb. on the spot and 29s., c.i.f. Brazilian, 23s. spot, and 21s. 6d., c.i.f. Formosan, 14s. 9d., c.i.f. Italian "Mitcham"-type oil is scarce on the spot with new-crop for shipment at 66s., c.i.f. Spot, American, 35s. to 39s.

PINE.—Pumilionis on the spot is 16s. per lb.; sylvestris, 25s. Si (abietis), 12s. 6d. to 15s.

ROSEMARY.—Spanish oil is very firm on the spot and at origin. Spot value is 6s. 6d. per lb., duty paid.

RUE. - Spot offers for small lots are now 17s. 6d. per lb.

SAGE.—Spanish is from 8s. per lb. and Dalmatian, 30s. on the spot.

Sandalwood.—Mysore is 87s. 6d. per lb. on the spot and East Indian, 83s.

Tangerine. — Sicilian is from 38s. to 48s. per lb., on the spot.

THYME.—Spot is from 9s. to 14s. per lb. according to content.

UNITED STATES REPORT

NEW YORK, SEPTEMBER 25: Higher TURPENTINE prices also saw DIPENTINE rise two cents to 86 cents a gallon, A firmer tone in Brazilian MENTHOL brought the price up 20 cents to \$6.25 a lb. Higher among CRUDE DRUGS were HYDRASTIS at \$3.50 a lb. (up 25 cents); and Gum asafoetida, lump, at 35 cents (up five cents). A small lot of some thirty-three bales of BUCHU arrived here last week and local dealers do not expect further arrivals. Inquiry for BEL-LADONNA LEAVES is more active. Portuguese Ergot is quoted at one dollar a lb, for shipment from the primary market, but some trade factors question the quality at that price, LEMONGRASS OIL sold 15 cents lower temporarily but went back to \$1.85 a lb. Higher per lb. among Essential Oils were Bergamot at \$9.25 (up ten cents); LAVENDER, 30-32 per cent., at \$5'00 (25 cents); Dalmatian SAGE, \$4:50 (20 cents); and CHENOPODIUM, \$3.75 (35 cents).

COMING EVENTS

Items for inclusion under this heading should be sent in time to reach the Editor not later than first post on Wednesday of the week of insertion.

Sunday, September 30

ROMFORD BRANCH, PHARMACEUTICAL Childerditch Common, at 11 a.m. Car rally and picnic lunch, Entrance fee, 5s.

Monday, October 1

FRENCH PHARMACEUTICAL CONGRESS. Faculty Pharmacy, 4 Avenue de l'Observatoire, Paris. Ends on October 6.

STOCKPORT BRANCH, PHARMACEUTICAL SOCIETY, Boyle's café, Park Street, Stockport, at 8 p.m. Supper; College prize presentation.

WEST KENT BRANCH, PHARMACEUTICAL SOCIETY, Whim tea lounge, Beckenham, at 8 p.m. Dublin Conference reports; Mr. N. Dewey on The Restrictive Trade Practices Act and the P.A.T.A."

Tuesday, October 2

BIRMINGHAM PHARMACEUTICAL ASSOCIATION, Imperial hotel, Birmingham, at 8 p.m. "Colour Photography" (members' exhibits).

Brighton and Hove Branch, Pharmaceutical Society, Langfords hotel, Third Avenue, Hove, at 8 p.m. Films; report on Dublin Conference.

Wednesday, October 3

CAMBRIDGE AND HUNTINGDON BRANCH, PHARMA-CEUTICAL SOCIETY, Matthew's café, 14 Trinity Street, Cambridge, at 8 p.m. Dr. N. S. Sherrard on "Hypnotherapy."

HARROGATE BRANCH, PHARMACEUTICAL SOCIETY, St. James hospital, Leeds. Pharmaceutical unit visit, theatre, supper. Coach leaves Harrogate at 2.15 p.m.

SOCIETY FOR ANALYTICAL CHEMISTRY, Burlington House, Piccadilly, London, W.1, at 7 p.m. Meeting on "Chromatography."

THAMES VALLEY PHARMACISTS' ASSOCIATION, Griffin hotel, Market Place, Kingston-on-Thames, at 7 p.m. Supper dance.

WEMBLEY and WEST MIDDLESEX ASSOCIATIONS and Branches, Oldfield hotel, Greenford Road, Greenford, at 6.30 p.m. Annual dinner and

Thursday, October 4

ISLE OF WIGHT BRANCH, PHARMACEUTICAL SOCIETY, God's Providence House, Newport, at 7.30 p.m. Dr. K. R. Capper on "The National Formulary."

SOUTHERN AREA, DUTHERN AREA, INSTITUTE OF PACKAGING, 8 Hill Street, London, W.1, at 6.30 p.m. Discussion on "Containers in Competition — Pharmaccuticals."

WEST HAM ASSOCIATION OF PHARMACISTS, Crookes Laboratories, Ltd., Park Royal, Lon-don, N.W.10. Visit. Coaches leave Barking (corner of Glenny Road and Longbridge Road) at 1.10 p.m. Picking-up points: Ilford Lane, 1.15 p.m.; Ilford Hill, 1.20 p.m.; Stratford Broadway, 1.40 p.m.

Friday, October 5

EAST METROPOLITAN BRANCH, PHARMACEUTICAL SOCIETY, and WHIPPS CROSS MEDICAL SOCIETY, Whipps Cross hospital, Leytonstone, at 8.30 p.m. Professor R. M. B. MacKenna on "Common Problems in Dermatology."

SOCIETY OF CHEMICAL INDUSTRY, London School of Hygiene and Tropical Medicine, Keppel Street, London, W.C.1, at 7 p.m. Professor A. Neuberger on "Isotopes in Biochemistry." FINE CHEMICALS and MICROBIOLOGY GROUPS.

MERSEYSIDE BRANCH, NATIONAL ASSOCIATION OF WOMEN PHARMACISTS, Y.W.C.A. lounge, 18 Slater Sircei, Liverpool, at 7.15 p.m. President's night.

SOCIETY OF COSMETIC CHEMISTS OF GREAT BRITAIN, ROYAL SOCIETY of Arts, John Adam Sireet, London, W.C.2, at 7.30 p.m. Dr. G. H. Bourne on "Histology of the Skin."

At 6.45 p.m., refreshments.

SOUTH-WEST LONDON CHEMISTS' ASSOCIATION and Branch, Lambeth town hall, London, S.W.2, at 8 p.m. Mr. Alvan T. Marston, F.D.S.R.C.S., on "The Solution of the Piltdown Problem,"

PRINT AND PUBLICITY

Advertising Campaigns

EVAN WILLIAMS Co., LTD., Aintree Road, Perivale, Greenford, Middlesex: Tulip tissues. In national Press from October 15.

GENATOSAN, LTD., Loughborough, Leics. Sanatogen. In Manchester Guardian, week ending October 6, Observer, October 14.

F. W. HAMPSHIRE & CO., LTD., Sunnydale, Derby. Zubes. In national daily and Sunday newspapers between November and March.

SOUTHON LABORATORIES, LTD., 88 Upper Richmond Road, London, S.W.15. E. P. tablets. In over thirty women's periodicals, Family Doctor, True Story, True Romances, Good Housekeeping.

COMMERCIAL TELEVISION

(October 7-13)

PROGRAMME details are given to enable chemists to put in linking-up displays if they wish.

Notice given is as far in advance of the programme date as can be guaranteed by the broadcasting companies.

ALL STATIONS

SUNDAY: Spratt's mixed ovals and Spratt's meat; Coty 24 lipstick.

LONDON STATION

TUESDAY: Crookes' halibut oil capsules (between 9.35 and 10.35 p.m.).

WEDNESDAY: Gibbs' S.R. tooth-paste (between 10 and 10.30 p.m.); Silvikrin (between 9.35 and 10.35 p.m.).

THURSDAY: Loxene medicated shampoo (between 7 and 7.25 p.m.).

FRIDAY: Crookes' halibut oil capsules (between 7 and 7.25 p.m.). SATURDAY: Silvikrin.

Dally, Monday-Friday: Brylcreem (between 7.30 and 11 p.m.).

BIRMINGHAM STATION

WEDNESDAY: Astral cream (between 8 and 10.30) p.m.); Gibbs' S.R. tooth-paste (between 8 and 10 p.m.).

THURSDAY: Asiral cream (between 8 and 10.30 p.m.).

FRIDAY: Loxene medicated shampoo (between 7 and 7.30 p.m.); Crookes' halibut oil capsules (between 5 and 6 p.m., and 7.30 and 8 p.m.).

SATURDAY: Silvikrin; Cussons' cold cream soap (at 10.45 p.m.).

NORTHERN STATION

SUNDAY: Loxene medicated shampoo (between 7.30 and 8 p.m.); Zoflora; Tokalon rose skin food.

MONDAY: Amami wave-sei (between 7 and 7.30 p.m.).

Wednesday: Crookes' halibut oil capsules (between 9.30 and 10 p.m.); Amami wave-set (between 7 and 11 p.m.).

THURSDAY: Zoflora; Amami wave-set (between 10 and 10.30 p.m.); Tokalon rose skin food.

FRIDAY: Amami wave-set (between 7 and 11 p.m.).

SATURDAY: Cussons' cold cream soap (at 10.45 p.m.); Fennings' cooling powders, mother's book, rheumatic tablets (between 2.45 and 3.30 p.m., and 10.45 and 11 p.m.); Tokalon rose skin food.

DAILY, Monday to Saturday: Silvikrin.

Mammoth Illuminated Slgn

MAX FACTOR HOLLYWOOD & LONDON (SALES),
LTD. Max Factor beauty products. First illuminated sign (100 ft. long with 7-ft. neon letters) at Piccadilly Circus for beauty preparations.

Window Displays

Scholl Mfg. Co., Ltd., 182 St. John Street, London, E.C.1. Dr. Scholl's foot aids. Series of illustrations of suggested numbered arrangements, with show material to suit.

C. & D. WEEKLY LIST OF PRICES

R=Reduced; I.R.P.=Inclusive Retail Price; *=Tax 30 per cent.; ‡=Tax 60 per cent.; †=Tax 90 per cent. HARKER STAGG, LTD. (from October 1)

Rayolast bandage	2 in. 3 in. 4 in. 6 in.	23 33 44 66	6	3 4	71 81 11 4	A
P.A. (Alterations notified Articles Trade Asso				Prop	riet	агу
J. L. BRAGG, LT	D. (fron	1 Oct	ober	1)		

Doz. I.R.P.

Medicinal charcoal, B.P.C. 1934) capsules 41 10 4 6 A INTERNATIONAL LABORATORIES, LTD.

(from October 1) Relaxa tablets* 15 2 9 A

NORGINE PHARMACEUTICAL PRODUCIS (LONDON), LTD.
Normacol* 4 oz. 31 6 4 31 A 8 oz.

16 oz. 108 0 14 16 oz. 108 0 14 5 lb. 486 0 66 The price of the 16-oz. pack of Norn antispasmodic at 14s. 8½ is slightly reduced. of Normacol

ROCHE PRODUCTS, LTD. Benerva compound tablets 12 0 24 0 I 6 R 3 0 R 100 WILLIAM FREEMAN & CO., LTD. (addition

10 the list) Suba Seal Sleepyeyes hot-45 0 4 11 water botile DELETIONS FROM THE LIST

GILMONT PRODUCTS, LTD, G.P. jelly, ointment and solubles; G.P.D. (douche)

KAYLENE CHEMICALS, LTD. Carbokaylene tablets (sweetened)

RIDGES FOOD, LTD. Ridges' food

NEW PRODUCTS AND PACKS

AGFA, LTD. Agfalux fold-away flash-		
gun and case	92	10
BELMONT MANUFACTURING CO. Bel-Stat electric blanket	82	0
BOOTS PURE DRUG CO., LTD. Penicillin G crystalline, B.P. Each		
	131	6
100 x 1-m.u, vials 129 4 BOWATER-SCOTT CORPORATION	194	0
Handy Andies "family" Doz.	,	6

COUNTY LABORATORIES, LTD. Amami wave set and con-ditioner twin pack† 14 9

Distaquaine-V Sulpha rablets

30 200 14 2 80 0 INCOLN HAIR PRODUCTS, LTD. Linc-o-Lin beer shampoo six-sachet pack* 5 0

MAYBORN PRODUCTS, LTD. Sea Pearls

PULLIN OPTICAL CO., LTD. 479 11 Arette la camera‡ ever-ready leather case

5 0

JOHN RONALDSON & CO., LTD, Liposiabil capsules 100 20 0 Liposiabil capsules SCOTT & BOWNE, LTD. acquins hand cream in polythene tube†

SOUTHALLS (BIRMINGHAM), LTD. Doz. 12 6 1 10 Southalls baby powder*

Announcing

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brand
PENICILLIN-V WITH SULPHONAMIDES

Each tablet contains the

EFFECTIVE oral penicillin, Penicillin-V Lilly, with a total of 0.5 gm. of Sulphonamides-Sulphadiazine, Sulphamerazine and Sulphadimidine. This combination is of particular value in mixed infections or where the organism is only moderately susceptible to either agent.

The average adult dose is one tablet four times daily, increased in severe infections,

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SUPPLIED IN 5 COLOURS, No. 10 COPPER—
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NO. 18 BROWN (FOR GREY, ALSO BLEACHED HAIR)
In 1 oz. bottles at 3/2 — 2 oz. at 5/6
Order from your usual supplier or enquire from us.

Write for FREE SHADE and SHOW CARDS

BLACK Nº 16 for GREY, BLACK or DARK

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OOB ELECTRIC

Output 6 to 8
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The OOB and
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Distilled water produced is above the requirements of the British Pharmacopoeia.

PINTS TO 50 GALLONS PER HOUR

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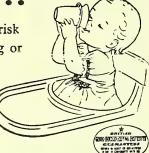
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SODIUM GLUCONATE

GLUCONO DELTA LACTONE

(GLUCONIC ACID ANHYDRIDE)

ACID SODIUM CITRATE

ITACONIC ACID

skilled chemists.

CROWN CHEMICAL WORKS

Telephone: ADVANCE 1234 (7 Lines)

THREE MILL LANE · BROMLEY-BY-BOW · LONDON · E.3

ESTABLISHED 1870

Telegrams: KEMBALL BOCHURCH, LONDON





BECAUSE OF THE BUTTERSCOTCH FLAVOUR

Sole Manufacturers: JEFFREYS, MILLER & CO. LTD., Leyland Mills, Wigan. (London Dept: 19 Brookside Rd. N.)

TANNIC ACID

DERIVATIVES

THE BRITISH DYEWOOD COMPANY LIMITED 19 St. VINCENT PLACE, GLASGOW C.I

IMMEDIATE DELIVERY FROM STOCK

A COMPREHENSIVE RANGE OF STANDARD ROUND BOXES

or the CHEMIST MADE BY ROBINSONS OF CHESTERFIELD



SEALITE WAX IMPREGNATED OINTMENT BOXES PRICES OF STANDARD LINES STABILISED TILL JULY 1957

specialized boxes have been made to

specifications and standards to comply with N.H.S. and B.S.I. specifications.



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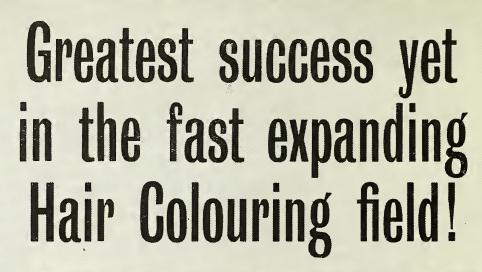
ROBINSON & SONS LTD WHEAT BRIDGE MILLS, CHESTERFIELD

Telephone: 'BOXES' CHESTERFIELD

Telephone: 2105 (6 lines)

LONDON OFFICE

KING'S BOURNE HOUSE, 229-231 HIGH HOLBORN, W.C.I. Telegrams: STAGLINT LONDON Telephone: HOLborn 6383





Sales of COLOR-GLO have exceeded all expectations. There is no doubt that COLOR-GLO advertising — directed at women who have never dared to use hair colouring before — is creating an entirely new market for hair colouring products.

COLOR-GLO is bringing sales to chemists all over the country—results since launching have been phenomenal. Don't hesitate to order adequate stocks. COLOR-GLO users do get the results they are promised. That means they will come back again and again—on the average at least six times a year. This will represent new business—an addition to your turnover. For most COLOR-GLO users are trying out a new kind of product—one they have never bought before.

COLOR-GIO

Lasts through 6 to 8 shampoos TRADE MARK

Display these most attractive full colour packs and link up with the all-the-year-round big space advertising appearing in Woman Woman's Own and women's monthly magazines.

Retail price 4/6 per bottle. Trade price 22/6 per dozen. plus 90% tax.

From your usual wholesaler or from:

GOLDEN LIMITED, 7 GROSVENOR STREET, W.I.

Telephone: HYDe Park 1671/6

Trade Enquiries for the Republic of Ireland should be addressed to: Lilmar Pharmaceuticals Limited Santry, Dublin.

CG 5073



AUTOMATION AGE

TORCH POCKET

H charges itself...
H sells itself...

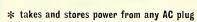
UNIQUE! RELIABLE! VERSATILE! The CHILTON ACCULUX torch sparkles with "sellability". A few hours re-charging at any AC domestic power point or lighting socket maintains its full brilliance indefinitely. And the accessories! Ten-fold illuminated magnifier, green and red filters for photographic use, adaptor for charging from light sockets, any-angle holder-all these and novelty too! The field's wide open for the Chilton Acculux! Not only is the CHILTON ACCULUX a new, efficient and permanent household torch, and the perfect present, it

covers an enormous field of special uses. Hundreds of specialists in dozens of professions and hobbies will be eager to

buy the CHILTON ACCULUX with one or more of its accessories.

CHILTON HCCN TNX

the torch you re-charge from the mains



- * does not run down when not in use
- * cannot be over-charged
- * handy size and weight for pocket or handbag
- * virtually unbreakable

Retail price 65'- inc. P. Tax

Accessories extra



Remember—
a Chilton Acculux is the perfect Christmas present for boys of all ages

All enquiries to your usual wholesaler or direct to

STOP PRESS

NATIONAL PRESS ADVERTISING WILL BRING PEAK PRE-CHRISTMAS SALES. MAKE SURE YOU HAVE STOCKS TO MEET DEMAND

CHILTON ELECTRIC PRODUCTS LTD ,HUNGERFORD, BERKS (Hungerford 237/8) or 19 OLD QUEEN ST, LONDON S.W.1 (TRA 3035)



for PALMOLIVE

P for Palmolive as advertised to

One in three customers living near you.

Make this promotion bring profit your way,

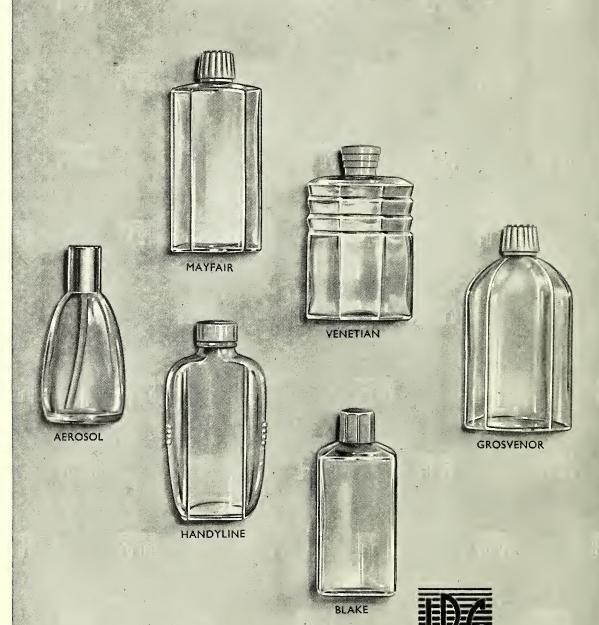
Give Palmolive Brushless counter display.



SUNDAY PICTORIAL

PALMOLIVE BRUSHLESS advertising appears in the Sunday Pictorial on September 30.

Designers & manufacturers of high quality glassware



THE INTERNATIONAL BOT

140 PARK LANE MARBLE ARCH LONDON, W.I

PHONE: MAYFAIR 6992 (5 LINES) GRAMS: AUTREFOIS, AUDLEY, LONDON

Making your Dispensing Easier



Certor

SCREW CAP AND CORK DISPENSER

★ HOLDS FIVE SIZES OF CERTOR SCREW CAPS -sufficient to cap 46 sizes of dispensing, packing and tablet bottles;

★ SEVEN SIZES OF CERTOR CORKS— an easier and more systematic arrangement for your corks.

MODERN SOLUTION TO AN OLD PROBLEM

The Certor Screw Cap and Cork Dispenser is a simple but useful item of dispensary equipment. It provides a modern solution to an old problem. The dispenser can hold either five sizes of Certor Screw Caps—sufficient to cap a full range of dispensing, packing, and tablet bottles—or seven sizes of Certor Corks. There are five compartments in the dispenser. Two compartments can each hold two sizes of corks.

A good supply of either screw caps or corks can be kept in each section. They drop through an aperture under the glass screen, and fill the receptacle at the front. As they are used, others drop into their

The advantages of the Certor Screw Cap and Cork Dispenser are obvious, especially in the busy dispensing season. You get the right size at the right time. No irritating delays—and no sorting out of different sizes till you get the correct size, Still another advantage: the dispenser keeps the contents clean.

CERTOR SCREW CAPS

Five Sizes for 46 Sizes of Bottles

With Certor Screw Caps, the Dispenser is a valuable aid to your dispensing, You have before you all the sizes you need to cap no fewer than 46 sizes of dispensing, packing and tablet bottles, There is no waste with Certor Screw Caps, They are uniform in size and quality. Every cap perfectly fits its appropriate bottle, Moreover, screw caps are clean, They cost less than the best quality corks. They are a neat, modern closure for your bottles. Where corks are still preferred, the dispenser is a quick, methodical means of dealing with your corks. It is the modern, time-saving equivalent of the cork drawer.

HOW TO GET ONE OF THESE USEFUL DISPENSERS

You can get the Certor Screw Cap and Cork Dispenser either free or at half manufacturing cost (8/-), according to the value of your order, for either screw caps and bottles, or corks and bottles:

FOR CERTOR SCREW CAPS

(A) Free of cost with two gross of each size of Certor Screw Caps and a contract for 50-gross of screw-neck bottles, to be taken as required during a 12-month period.

(B) At half manufacturing cost (8/-) with two-gross of each size of Certor Screw Caps, and a contract for 25-gross of screw-neck bottles, to be taken as required during a 12-month

FOR CERTOR CORKS

(A) Free of cost with one bag each of seven sizes 1 oz. to 20 oz., and a contract for 50-gross of cork-mouth bottles, to be taken as required during a 12-month period. (B) At half manufacturing cost (8/-) with one bag each of seven sizes 1 oz, to 20 oz., and a contract for 25-gross of cork-mouth bottles to be taken as required during a 12-month period.

FOR YOUR DISPENSING PARCHMENT



About 2,500 of these valuable cabinets are in use in pharmacies both in this country and overseas. Orders have also been received from hospitals and schools of pharmacy. Cartons of each size of Certor Dispensing Parchment a good quality paper

ment, a good quality paper for your bottles, fit into the appropriate sec-tions. The cabinet keeps

*All the above cabinets are strongly made of wood, with light oak finish.

Details of orders for the Certor Dispensing Parchment Cabinet, Certor Satchel Cabinet, and Certor Pill and Tablet Carton Cabinet on application.

FOR YOUR DISPENSING SATCHELS

Dispensing Satchels are kept neatly under control when stacked in the Certor Dispensing Satchel Cabinet. These satchels, strong and well-finished, are supplied in boxes of 500.

The cabinet ensures that they are kept in the best condition



during use. At half manufacturing cost (6/6) with order for Certor Dispensing Satchels.

FOR YOUR PILL CARTONS

Just the thing for your pill cartons! The Certor Pill Carton Cabinet keeps the five sizes of Certor Pill and Tablet Cartons in a convenient, orderly arrangement. And keeps them clean, too. At half manufacturing cost (5/-) with order for Certor Pill and Tablet Cartons (plain).

CABINETS PREVENT WASTE

SAVE TIME

IMPROVE YOUR SERVICE

MACDONALD'S of MANCHESTER

MACDONALD & SON LTD PORTLAND MILL

ASHTON - UNDER - LYNE LANCS



By Appointment to H.M. The Queen, Chemists

Savory & Moore



VERTEBRÆ!

... the facility of buying Savory & Moore high quality Pharmaceutical Products locally is not without its attractions to "more discerning" customers who form the backbone of your goodwill.

Bonus of one to the dozen on the following specialities: Dr. Jenner's Medilax, Dentural and Quinasp. Free Van Delivery in Home



Savory & Moore

60 WELBECK STREET · LONDON · W.I

WIN the loyal Cuticura public to YOUR Pharmacy

Cuticura Medicinal and Toilet Preparations have a public, old established and ever expanding, which is remarkable for its loyalty to these Firm Family Favourites . . .

Cuticura Soap.. Cuticura Ointment.. Cuticura Talcum Powder.. Cuticura Shaving Stick.. now joined by Cuticura Hand Cream and Cuticura Medicated Liquid.

Cuticura advertising appeals forcefully to the new generation of teenagers and young mothers, building up each year ever more satisfied customers to swell the numbers of those who insist that nothing will do but Cuticura Quality.

WIN THESE CUSTOMERS

Just one pack of each of the Cuticura Preparations in your attractive window will catch the eye of every Cuticura Customer. They know that the pharmacy that sells their Cuticura, stocks only the best.

STOCK AND DISPLAY

Cuticura

SOAP
OINTMENT
HAND CREAM
SHAVING STICK
TALCUM POWDER
MEDICATED LIQUID



ZUBES ARE GOING ON PARADE THIS WINTER... WITH BIG NATIONAL CAMPAIGNS IN THE PRESS

AND ON TELEVISION Your sales will go shooting up when your customers see the hard-selling Zube advertise-ments, (featuring the famous Zube Horse), which will be appearing in the following National papers between November 1956 and March 1957.

Tube advertisements will appear before
ments will appear before
42,646,155 readers of the Daily
Mail, Daily Express, Daily Herald, News
Chronicle, Daily Mirror and Daily Sketch.

NATIONAL SUNDAYS

Zube advertisements will appear before ments will appear before the World, People, Sunday Express, Sunday Pictorial, Sunday Graphic, Sunday Dispatch, Empire News, Reynolds News and Woman's Sunday Mirror.

will make his first appearance will make his first appearance on TV in an outstanding series of 15-second TV Commercials, which will be second TV Commercials,

Nation-wide coverage like this sells ...

fast! Thousands of new customers will be asking for Zubes this winter. Place your order in plenty of time, so as not to disappoint them.

Hoarse, 2 go suck a ZUBE

PRICE IN TINS $9^{\frac{1}{2}^{D}} \text{ and } 1/6^{D}$ or $6^{\frac{1}{2}^{d}}$ per ounce loose



SUPPLEMENTING NATURE...



FELOPAN (Orange-coated Tablets) For routine or for subsequent therapy.

FELOPAN COMPOUND (Blue-coated Tablets) For initial use in severe cases only.

The combination of bile salts and pancreatic enzymes in FELOPAN stimulates normal peristalsis and readily relieves chronic constipation. The two forms of FELOPAN-with and without mild laxatives-provide the complete treatment for breaking the cathartic habit and correcting intestinal indigestion.

ELOPAN

a supplementary source of bile salts and pancreatic enzymes

Packings: 100, retail price 3/6d. + 7d. tax; 1,000 dispensing pack.



COATES & COOPER LTD PYRAMID WORKS, WEST DRAYTON, MIDDX.





Quality & Service

GRAESSER SALICYLATES LTD

SPECIALISTS IN THE MANUFACTURE OF

ASPIRIN SALICYLATES and ALLIED PRODUCTS

Kindly Note . . . **OUR RANGE NOW INCLUDES**

METHYL SALICYLATE

SANDYCROFT NR. CHESTER

Telephone: HAWARDEN 2125 Telegrams: QUALITY CHESTER



"ZORBO" (REG'D)

Superfine Cotton Wool

This is a very old Trade Mark of ours and a product for many years in use by the Medical Profession and all those requiring a First Class Superfine Cotton Wool. Now packed in attractive white Cartons in various sizes and would be readily acceptable to your more exacting customers.

> Of course this is just one of our Manufactures. We also supply in Cartons all BPC Dressings in Cotton Wool, Lint and Gauze.

Our products are obtainable from Wholesalers, but should you have difficulty a line to us will have prompt attention.







VITAVEL SYRUP

The ready acceptance of Vitavel Syrup, by patients of every age and disposition is no accident. This liquid vitamin supplement is delicious—a careful blend of true orange juice and liquid glucose with vitamins A, B_I, C and D.

One fluid ounce contains at time of manufacture:
VITAMIN A 20,000 i.u. VITAMIN D 3,000 i.u.

VITAMIN B₁ 4 mg. VITAMIN C 80 mg.

LIQUIB GLUCOSE B.P. 25% W/v.

PACKS: 6 fl. ozs. Retail 3/9 Chemists 2/6
40 fl. ozs. Retail 24/- Chemists 16/-

BEMAX stabilized wheat germ

This richest natural vitamin-protein-mineral supplement is now available in two flavours. Plain Bemax and chocolate-flavoured Bemax (of special appeal to children).

PREGNAVITE during pregnancy

A comprehensive vitamin-mineral supplement specifically designed to supply the enhanced dictary needs of pregnancy.

anced dieta	i y necus o	pregnancy.
PRICES	RETAIL	CHEMISTS
60 120	4/1	33/4 per doz
1.000	181-	59/10,, ,,



VITAMINS LIMITED

(DEPT. AA7) UPPER MALL, LONDON, W.6.

Mannand



FOR THE DISPLAY FORTHIGHT COMMENCING ASEN OCTOBER Introduced last Autumn, "Tussola" was an immediate success. Your customers will ask for it again and again and recommend it to their friends. The active ingredients are Pholcodine and Squill in a base containing treacle, honey and liquorice. 4 oz. size 17/- doz. plus $5/l\frac{1}{2}$ P.T. Retail 2/7 bottle.

"Eupinal has been used successfully in the treatment of asthma and chronic bronchitis for over 40 years and sales continually increase. It is advertised to the medical profession and widely prescribed on E.C.10. Letters we receive indicate the great relief given by this preparation. 4 oz. size 26/6 doz. plus 7/11½ P.T. Retail 3/9½ bottle. Bonus,

Bonus and crowner

available.

Cuxson, Gerrard

leaflet and tax free dispensing pack available.

EUPINAL for the Treatment of Chronic Bronchitis and Asthma A PRODUCT OF CHASON GENERAL COLLEGE

OLDBURY BIRMINGHAM



THE MANUFACTURING & WHOLESALE CHEMISTS

who can be relied on for

REGULAR ROAD DELIVERIES

in the West of England and S. Wales areas

Telephone: Bristol 21381

& CO LTD BRISTOL

Telegrams: 'Ferris, Bristol'

DISEASES AND REMEDIES

10th Edition, 1955

Contains numerous additions made since the 9th edition (published 1953), which was completely rewritten. The book is a concise survey of the most modern methods of medicine. It provides pharmacists with a text-book of information on the treatment of diseases and the drugs used. Accepted methods are explained, and the medicaments mentioned include some of very recent introduction. Price 15s. Postage 9d.

Order from your bookseller or direct from the publisher-CHEMIST AND DRUGGIST, 28 Essex Street, Strand, London, W.C.2

EUCALYPTUS BURNSIDE'S

Distilled in Australia from Eucalyptus leaves in accordance with the B.P. specification. W. K. Burnside Pty., Ltd., Melbourne, Australia offer:-

> 80/85% Rectified B.P. Eucalyptol B.P. 70/75% Rectified B.P. Oil Eucalyptus Dives 40/45% Oil Eucalyptus Dives 90/95% For the production of Thymol and Menthol Oil Eucalyptus Phellandra-Phellandrene For use in Antiseptics and Disinfectants

Agents for U.K.: WILSON & MANSFIELD, LTD., 15 Philpot Lane, LONDON, E.C.3

Phone: MANSION HOUSE 9264-5-6

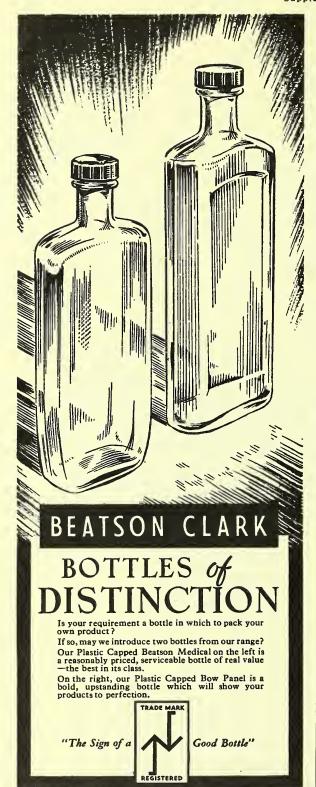
(WHOLESALE ONLY)

Grams: WYFIELD, LONDON



County Laboratories Ltd., Honeypot Lane, Stanmore, Middx. Telephone: WORdsworth 4321

lotions—put together!



BEATSON, CLARK & CO., LTD.

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ROTHERHAM

Established 1751

YORKSHIRE

AN ENCYCLOPÆDIA OF POISONS LAW

CHEMIST AND DRUGGIST POISONS GUIDE

VOLUME I POISONS LIST & KEY

VOLUME 2
POISONS PROVISIONS
& EXPLANATIONS
40/- (postage 1/6d.)

20/- (postage 1/-)

Compiled and co-ordinated by W. A. WHATMOUGH, B.Sc., Ph.C., F.R.I.C.

No pharmacist, in whatever branch he is engaged, can afford to be without these two volumes, which together form a veritable encyclopædia of poisons law. They provide complete information on what the authorised seller of poisons should do in every situation covered by the Poisons Rules and Dangerous Drugs regulations and enable poisons to be supplied without the slightest anxiety. Order these essential volumes NOW!

Order from your Bookseller or direct from The Publisher: 28 ESSEX ST., STRAND, LONDON, W.C.2

HOME TRADE



EXPORT

BUCHU PAPAIN CALABAR BEANS

and all other Botanicals, Gums, Waxes, Essential Oils and Spices

JOHN KELLYS (LONDON) LTD. 24 OLD BROAD STREET, E.C.2

Telephone: LONdon Wall 6585 (4 lines)
Telegrams: "Ergotine, Steck, London"

NEW YORK . HAMBURG



Look at the appeal: 2/5 Nivea Creme, and 2/5 Blue Velvet Hand Lotion—two of your finest-selling, fastest-turnover lines.

DALAS ON CHICAN SHE SHE CONTROLL SHE CHICAN SHE CHICAN

Look at the price: 4/10. The coffret is bright, gay and attractive—just what people will pick up when they are shopping around. But it is absolutely **free**.

Look at the profit you can make. Over 1/- on every coffret—12/5 on every dozen. Plus, of course, the $3\frac{3}{4}\%$ or $7\frac{1}{2}\%$ Discount on your **total** Smith & Nephew order. This is one Christmas line you simply **cannot lose** on!

Get out your Order Book. These are such obvious bestsellers that demand is bound to be heavy. The sooner you get your order in, the better.

SMITH & NEPHEW LTD . WELWYN GARDEN CITY . HERTS

2

3

4



TABLET IDENTIFICATION

Set of 4 Charts printed in Colour with black and white diagrams for the identification of Colour and Marked Tablets, etc.

The set of four sheets size 14 x 10 ins. on art paper is priced at 1s. 6d. post free or mounted, eyeletted and corded at 5s. post free.

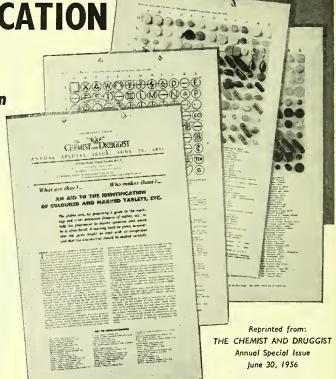
For convenience and speed, reference to key is arranged in columns.

Orders accompanied by Postal Order or cheque for the amount involved should be sent to the Publisher

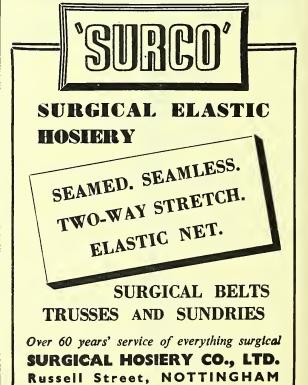


28 ESSEX STREET, STRAND, LONDON, W.C.2

Telephone: Central 6565







Telephone No. 75903

Telegrams: Surgical Notes



More than half the housewives in your neighbourhood—and their husbands and children too—will see this BEMAX advertising in the RADIO TIMES. Are all of them vitamin-conscious? Will they all want more iron and proteins? Hardly! But hundreds and thousands will remember Bemax next time they make out their shopping lists. You, too, can benefit from Bemax—by building up your stocks right now. Put Bemax in your window; put Bemax on your counter. Put money in your pocket—with the help of the RADIO TIMES.

one of the products that MOVE with the

RADIO TIMES

CERTIFIED WEEKLY NET SALES JAN.-DEC. 1955 - 8,800,715



What a wonderful pack for selling! Irresistibly quaint and colourful—just the size for handbags—and, at 5/- retail, well within 'impulse' spending limits. What's more, six consecutive shampoos will show conclusively how very much better is Linc-o-Lin Beer Shampoo.





PRICE TO RETAILERS

Box of 24 Lincoln Inn Packs, £3.2.6d. plus 18/9d. purchase tax. Discount on the above price of $12\frac{1}{2}\%$ to Retailers buying six boxes or more.

WEST END TIP!

'Lincoln Inns' set 'village-street fashion' along counter or shelves make a charming decorative display motif.



LINCOLN HAIR PRODUCTS LTD.

Shaftesbury Mews, Stratford Rd. Kensington, London, W.B. Tel: WEStern 6368/9

CLASSIFIED ADVERTISEMENTS

Supplement

28 ESSEX STREET, STRAND, LONDON, W.C.2

COMPANY ORRIDGE &

184 STRAND, Tel.: TEMple Bar 9212/3 & 6340

CHEMIST BUSINESS TRANSFER AGENTS AND VALUERS WHOLESALE AND RETAIL BRANCHES: BIRMINGHAM · SOUTHAMPTON · LIVERPOOL · SHEFFIELD · CARDIFF

Irish Representative: Mr. J. A. Bassett, Ph.C., 57 Great Victoria Street, Belfast, Northern Ireland. Tel: Belfast 27078

PREMISES

315 BARKING ROAD, LONDON, E.13.

Premises zoned for warehouse and/or shops. 34 ft. frontage. Four floors with total area 4,375 sq. ft. and room to extend. Parking for four cars on forecourt. Covered garage for two large vans. Freehold £7,500 or 21year lease at £500 p.a. excl. Write, Pollard C 4047 as above or phone Alb. 1601.

ILFORD. New shop with living accommodation in new parade suitable for chemist, rent £375 p.a. ex. Also new lock-up shops, South Street, Romford, rent £750 p.a. ex. Further details from Hilbery Chaplin & Co., 135 South Street, Romford, Essex. Telephone: 163/4, 3309.

TENDERS

URBAN DISTRICT COUNCIL OF WOKING SHOPS AT BARNSBURY FARM ESTATE, WOKING, SURREY

Applications are invited for tenancies for four shops and maisonnettes to be constructed at the above estate.
Pending the erection of these shops the Council will, on payment of a premium of £150 and a weekly site rent of £1, be prepared to permit the successful tenderer to commence trading on a nearby site to be provided by the Council. Further details and particulars of the shops to be erected together with a Form of Tender may be obtained from the undersigned to whom they should be returned in a plain scaled envelope bearing the words "Tender for Barnsbury Farm Shops," such envelope not to bear any name or mark indicating the sender, and to be received by me not later than noon on October 13, 1956.

The Council do not bind themselves to accept the highest or any offer.
Dated this 18th day of September, 1956.
M. SHAWCROSS,
Clerk of the Council.
Council Offices,
Woking, Surrey.

Council Offices, Woking, Surrey.

C 5694

SHOPS TO LET

Four new lock-up shops will shortly be available on lease at the Pancroft Housing Estate, Abridge, which when completed will contain approximately 300 dwellings, with other houses in the area.

A flat over each shop is available if re-

Further will be accepted for any trades. Further particulars available on application to the Clerk of the Epping and Ongar Rural District Council, 209 High Street, Epping, on payment of a charge of 5s. Completed offers to be submitted by October 26, 1956.

BUSINESSES FOR DISPOSAL

17/6 for 36 words (min.) then 4d, per word. Box 2/-

EAST LANCS industrial town: Large well-fitted pharmacy in town centre. Turnover approx. £5,000. Unlimited scope for chemistoptician. Price: fixtures and fittings, £540 plus s.a.v. approx. £1,000. Health reason for sale. Box C 286.

APPOINTMENTS

18/- per half inch (min.) and pro rata.

Box 2/-

BARNET GENERAL HOSPITAL,

BARNET GENERAL HOSPITAL,
WELLHOUSE LANE,
BARNET, HERTS
Pharmacist
Applications invited for the post of pharmacist.
The Pharmacy Department is new and well equipped, Salary £500-£725 per annum plus London Weighting.

Applications stating age, experience, names two referees, to Hospital Secretary. C 271

BETHNAL GREEN HOSPITAL, CAMBRIDGE HEATH ROAD,

CAMBRIDGE HEATH AVAILATION LONDON, E.2

Senior Pharmacist
immediate vacancy, modernised department,
salary as Whitley Council Scales. Canteen
facilities available. Applications with names of
two referees to be addressed to the Hospital
Secretary. C 5692

BRADFORD EDUCATION
COMMITTEE,
TECHNICAL COLLEGE,
BRADFØRD

Applications are invited for the appointment of LECTURER IN PHARMACOGNOSY in the Department of Pharmacy. The Lecturer will be expected to undertake work at degree level and to be interested in research.
The salary scale, which is according to the Burnham Technical Award, is from £1,200 to £1,350 per annum for men.
Further particulars of the appointment and forms of application may be obtained from the Director of Education, Town Hall, Bradford, and completed forms should be returned to the Principal of the College as soon as possible.
A. SPALDING,
Director of Education.

C 5698

NAPSBURY MENTAL HOSPITAL,

NAPSBURY MENTAL HUSELES,
Nr. ST. ALBANS
Locum Tenens Dispensing Assistant
required (Hall Certificate), commencing October 1, 1956. Salary £8 16s. 6d. per week.
New pharmacy in course of construction. Applications endorsed "Locum Dispensing Assistant" to Group Secretary, Napsbury Mental
Ventical

MILE END HOSPITAL, BANCROFT ROAD, LONDON, E.1

(484 beds)
Pharmacist and Student Pharmacist

(male or female)

Applications are invited for the above posts.

Whitley Council salary and conditions of services Alexanders.

veice, Also:

Locum Pharmacist
required immediately, (For further particulars telephone Chief Pharmacist: Advance 2873.)
Applications, with copies of testimonials, to the Secretary, Stepney Group Hospital Management Committee, Raine Street, Wapping, F. 1

C5679

NAPSBURY (MENTAL) HOSPITAL MANAGEMENT COMMITTEE,

Nr. ST. ALBANS, HERTS
Locum Tenens Pharmacist
required commencing October 1, 1956, at £16 16s.
per week. New pharmacy in course of con-

Details to the Group Secretary with names of two referees in an envelope to be endorsed "Locum Pharmacist." C 5700

NAPSBURY (MENTAL) HOSPITAL MANAGEMENT COMMITTEE

COMINITIEE,

Nr. ST. ALBANS, HERTS

Senior Pharmacist

Applications are invited for the post of Senior Pharmacist, £575 x £30 (5)—£725 x £25 (2)—£775. New pharmacy in course of construction.

Applications to the Group Secretary, with names of two referees, endorsed "Senior Pharmacist."

NOTTINGHAM NO. 1 HOSPITAL
MANAGEMENT COMMITTEE
Senior Pharmacist
Applications are invited for the appointment
of Senior Pharmacist to take charge of, and
develop the Sterile Products Unit at the General Hospital, Nottingham.
Detailed information may be obtained from
the Chief Pharmacist.
Applications stating age, qualifications, and
experience, particularly in the preparation of
Sterile Products, together with the names of
two referees, to be sent to the Group Secretary,
General Hospital, Nottingham.

C 281

SOUTH WEST MIDDLESEX HOSPITAL MANAGEMENT COMMITTEE,

WEST MIDDLESEX HOSPITAL

(Category V)
Senior Pharmacist
required to take charge of new Sterile Laboratory. Should be experienced in this type of work. Salary scale £575—£775, plus London Weightning, and higher qualification allowance £25 per annum. Commencing salary determined by previous experience. Whitley conditions. Applications stating age, qualifications and experience, with copies of testimonials and names and addresses of three referees to Chief Pharmacist, West Middlesex Hospital, Isleworth, Middlesex.

C 5681

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Assistant-in-Dispensing
Applications are invited from suitably qualified persons for the post of Assistant-in-Dispensing.
Salary according to Whitley Council scales plus London Weighting.
Applications to the Group Secretary immedi-

ST. ALFEGE'S HOSPITAL, **GREENWICH, S.E.10**

GREENWICH, S.E.10

(Category IV)

(a) Deputy Chief Pharmacist
(b) Senior Pharmacist
Applications are invited for the posts of (a)
Deputy Chief Pharmacist, salary £655-£890 p.a.
(b) Senior Pharmacist, salary £655-£890 p.a.
(in a well-equipped department at the above hospital, which may be inspected by arrangement with the Chief Pharmacist, Whitley Council conditions. Applications to Acting Secretary, G. & D./H.M.C., at above hospital.

C 5437

TOOTING BEC HOSPITAL,
TOOTING BEC ROAD,
LONDON, S.W.17
Pharmacist
Applications are invited for the post of Pharmacist at this hospital, Salary and conditions of service in accordance with the decisions of the appropriate Whitley Council, Applications, stating age, qualifications and experience, should be sent to the Physician Superintendent at the hospital.

C 5672

WILTSHIRE COUNTY COUNCIL
Deputy Chief Pharmacist
Applications invited from pharmacist for superannuable appointment of Deputy Chief Pharmacist at SWINDON HEALTH CENTRE. Salary £625 to £850. Thirty-nine-hour week. Council house available for rent. Applications, stating age, qualifications, experience and names and addresses of three referees to be sent to the undersigned as soon as possible.

sible.

P. A. SELBORNE STRINGER, Clerk of the County Council,

County Hall, Trowbridge

WORTHING GROUP HOSPITAL

WORTHING HOSPITAL,
LYNDHURST ROAD,
WORTHING, SUSSEX
Pharmacist
Applications are invited for the appointment of pharmacist (male or female), vacant November 1956, for duties in new Department recently opened. Salary and conditions of service in accordance with Pharmaceutical Whitley Council Scale, Applications stating age, qualifications and experience, together with the names of two referees, to be forwarded to the Hospital Secretary.

A. V. OAKTON,
Group Secretary,
C 280

ST. ALFEGE'S HOSPITAL, **GREENWICH, S.E.10**

GREENWIUH, S.E. (16-17 Locum Pharmacist (long- or short-term) required, Salary 16-17 guineas weekly, according to experience, Apply Chief Pharmacist at hospital (Tel.: Gre. 2655). C 5436

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BATTERSEA. Pharmacist required, with interest in photography, to manage a good-class establishment in this area. Splendid opportunity for promotion with good supporting staff and development is assured. Apply with full details stating when available for interview to Box C 4028.

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(Burgh Heath 2024 and 7 of Sundays of MANAGER REQUIRED for high-class branch business. Accommodation available. Permanency, with good prospects. Apply Philadelphus Jeyes & Co., Ltd., The Drapery, Northampton. C 4046

NORTH LONDON, Unqualified assistant required (lady or gentleman) for good-class business in North Finchley, N.3, near Finchley Central Station, Dispensing and counter, Hours 9 a.m. to 6 p.m. Thursday 1 p.m. Congenial position, Salary according to age and experience, Apply with details of previous experience to Box C 5690.

NORTH LONDON. Unqualified assistant required chiefly for dispensing for business situated at Mill Hill, N.W.7, Apply with fullest details of experience, also age and suitable time for an interview, to Box C 5658.

NORTH LONDON, Unqualified assistant (lady or gentleman) required for pharmacy at Finsbury Park. Salary according to experience and age. Three weeks' holiday a year. Apply with particulars of previous experience to Box C 5704.

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WHOLESALE

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PARKE, DAVIS & COMPANY, LIMITED PARKE, DAVIS & COMPANY, LIMITED invite applications from PHARMACISTS for a Junior Executive position in their Pharmaceutical manufacturing division. The position entails supervision of groups of process workers and offers an opportunity to gain wide experience in modern large-scale production methods, Good promotion prospects; previous manufacturing experience, while an advantage, is not essential. Five-day week, staff restaurant, generous pension plan, Write with full particulars to Personnel Manager, Staines Road, Hounslow, Middlesex. C 5654

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ABBOTT LABORATORIES, LTD, Ethical pharmaceutical manufacturers wish to engage a representative for Nigeria and Gold Coast, Candidates should be single and between 27 and 35 years of age, Previous experience in the pharmaceutical industry is not essential as adequate training will be given, Apply giving full details of age, education and career to date to Abbott Laboratories, Ltd., Perivale, Greenford, Middlesex, C 5687

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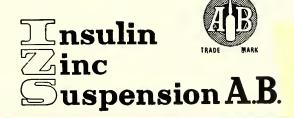
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